ITIL® v3 Foundation

Mega Guide

Prepare With Confidence

This PrepLogic Mega Guide was written by certified subject matter experts and published authors to provide you accurate, in-depth exam coverage. All exam objectives are covered in detail, giving you the knowledge and confidence you need to pass your exam.

PrepLogic

Be Prepared. Be Confident. Get Certified.

PrepLogic, Inc. • 1300 N. Westshore Boulevard, Suite # 125 • Tampa, Florida 33607
Phone: (813) 769-0920 (800) 418-6789 • Fax: (813) 769-0926 • Website: www.preplogic.com

ITIL® v3 Foundation Mega Guide

Product ID: 012470
Production Date: May 9, 2011

Warning and Disclaimer

Every effort has been made to make this document as complete and as accurate as possible, but no warranty or fitness is implied. The publisher and authors assume no responsibility for errors or omissions. The information provided is on an "as is" basis. The authors and the publisher shall have neither liability nor responsibility to any person or entity with respect to any loss or damages arising from the information contained in this document.

Volume, Corporate, and Educational Sales

PrepLogic offers favorable discounts on all products when ordered in quantity. For more information, please contact PrepLogic directly:

1-800-418-6789
solutions@preplogic.com

International Contact Information

International: +1 (813) 769-0920

United Kingdom: (0) 20 8816 8036

Abstract

A widely accepted approach to management within the business community, the IT Infrastructure Library (ITIL®) is a set of comprehensive codes of practice that help businesses achieve efficient support and delivery of high quality, cost effective IT services. Because it enables professionals to understand the common language of ITIL® and boost their position within the IT community, an ITIL® Foundations certificate will make them a valuable asset to their business. However, in order to become ITIL® certified, candidates must pass the ITIL® v3 exam. This is where the Mega Guide -- as well as other PrepLogic training materials -- becomes handy. In addition to providing information about the ITIL® framework, this ITIL® v3 Mega Guide details specific concepts with which candidates must be familiar in order to successfully complete the ITIL® v3 exam. As an added convenience, the information in this guide is divided into chapters that mirror the structure of the actual exam. Also, candidates will find sample questions and an abundance of charts and tables that effectively illustrate some of the key concepts and processes of ITIL® .

What to Know

This guide focuses on the Foundation IT Service Management level, detailing the key concepts, structure, terminology and processes of ITIL® . This guide allows candidates to gain a greater understanding of the ITIL® framework and demonstrate competency in the following areas:

- The overall scope of Service Managemnent
- The ITIL® v3 Service Lifecycle Stages: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement (CSI)
- The various management processes used within this framework
- The relationship between these processes and Service Management practices

Candidates who benefit most from the ITIL® v3 Foundation Certificate in IT Service Management include the following: those who require a basic understanding of the ITIL® framework; those who need additional understanding of the uses of ITIL® with respect to IT service management; and IT professionals or other professionals within an organization that has adopted and adapted ITIL® .

Tips

This MegaGuide is not intended to be an all-inclusive reference for IT professionals or those seeking ITIL® certification. Rather, this is a concise, user-friendly guide to a very broad and complex area of study.

In order to successfully complete the ITIL® v3 exam, candidates should familiarize themselves with all of the concepts described in the MegaGuide. In addition, they should consult the video made available through PrepLogic's Learmsmart Classroom Theater and consult practice exams and comprehensive reference books about ITIL® . Reference materials may include the following:

- The Official Introduction to the ITIL® Service Lifecycle ISBN: 9780113310616
- Passing Your ITIL® Foundation Exam Book ISBN: 9780113310791
- IT Service Management based on ITIL® V3: A Pocket Guide ISBN:9789087531027
- Foundations of IT Service Management Based on ITIL® V3 ISBN: 9789087530570

Candidates may also wish to consult the following ITIL® v3 Key Element Guides:

- Service Strategy ISBN: 9780113310708
- Service Design ISBN: 9780113310715
- Service Transition ISBN: 9780113310722
- Service Operation ISBN: 9780113310739
- Continual Service Improvement ISBN: 9780113310746

The Examination Institute for Information Science (EXIN) provides independent testing and certification. EXIN is a global, independent IT examination provider offering qualification programs for ISO/IEC 20000, ISO/IEC 27000, ITIL®, MOF, ASL, BiSL, TMap® and SCP.

Table of Contents

Chapter 1 - An Introduction to ITIL® v3

Chapter 1 focuses on acquainting the candidate with the following fundamental concepts of ITIL® v3:

- Definition of ITIL® v3
- Comparison of ITIL® v3 to ITIL® v2
- The five ITIL® v3 Disciplines
- Benefits of ITIL® v3
- Service Management as a Practice
- ITIL® v3 Framework
- Service Concept
- Good Practice and Best Practice
- Service Management Influences
- RACI Matrix
- Service Management Activities
- Service Management Phases
- Service Lifecycle
- Service Lifecycle Plan

Definition of ITIL® v3

The Information Technology Infrastructure Library (ITIL®) includes concepts and processes specific to Information Technology Services Management (ITSM), Information Technology (IT) development and IT operations. When put into practice, these concepts and processes provide a framework for identifying, planning, delivering and supporting IT services to a business.

Differences Between ITIL® v3 and ITIL® v2

When put into practice, the concepts and processes of ITIL® provide a framework for identifying, planning, delivering and supporting IT services to a business. ITIL® Version 2 (ITIL® v2) focuses primarily on eleven processes that provide Service Support and Service Delivery: Service Level Management, Availability Management, Capacity Management, Service Continuity Management, Financial Management, Service Desk, Incident Management, Problem Management, Change Management, Release Management and Configuration Management. The main processes known from ITIL® v2 remain within v3. In many instances ITIL® v3 offers revised and enhanced process descriptions, such as implemented feedback-loops with processes arranged in a circular method. ITIL® v3 puts more emphasis on producing business value.

More recently, ITIL® Version 3 (ITIL® v3) retains many concepts of ITIL® v2, but there are differences. The old structure of Service Support and Service Delivery has been replaced by a new one consisting of the five ITIL® v3 core disciplines. Each ITIL® book covers one of these IT management topic, as defined below:

- **Service Strategy** determines the types of services to be offered to customers or markets. This strategy should be strongly aligned with the overall business strategy.

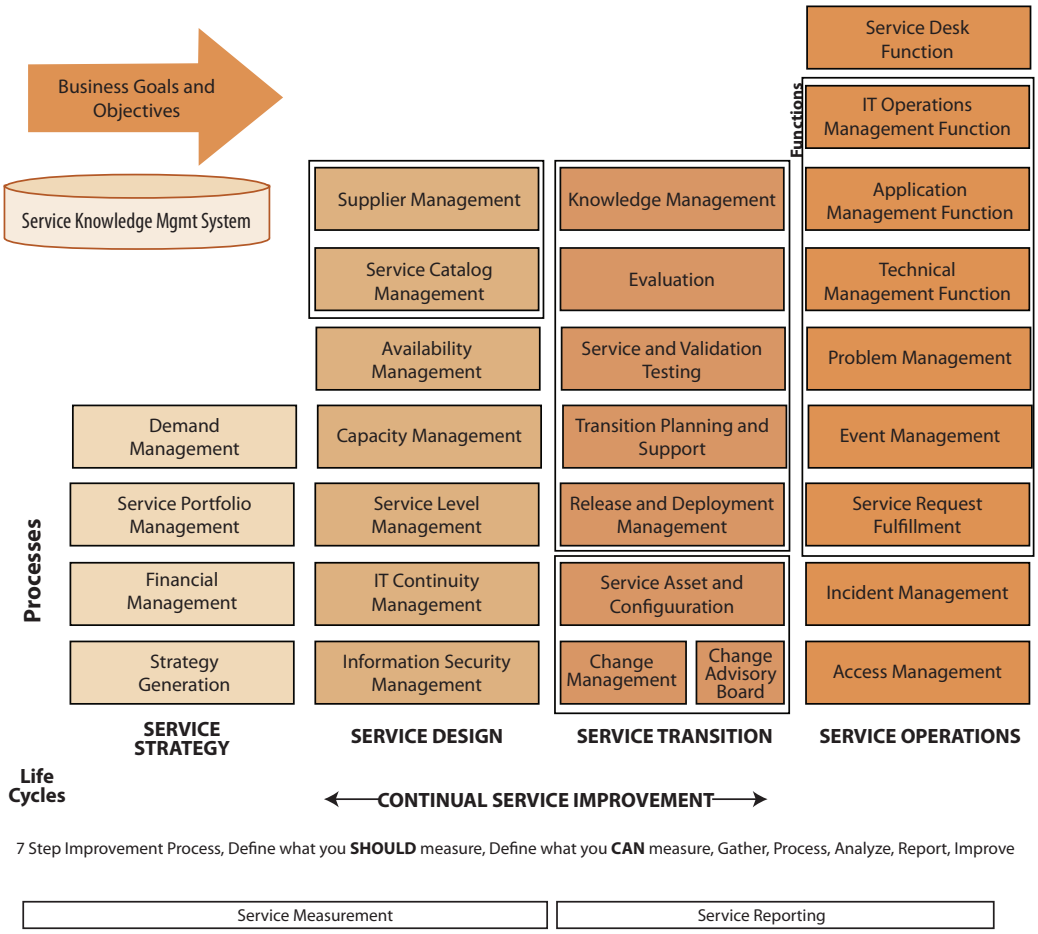
- **Service Design** determines service requirements and new service offerings. It also creates changes and improvements to existing processes.
- **Service Transition** builds and deploys new or modified services.
- **Service Operation** carries out operational tasks and keeps those services running.
- **Continual Service Improvement (CSI)** looks at past successes and deficiencies to continually improve the efficiency and effectiveness of services and processes.

The original ITIL® v2 eleven processes are included within the five ITIL® v3 disciplines. The table below maps those processes to the new books and identifies where the topic is **referenced,** and where it is **discussed** more fully in terms of process changes or enhancements.

MAPPING: ITIL® v2 to ITILv3®					
	Service Strategy	**Service Design**	**Service Transition**	**Service Operation**	**Continual Service Improvement**
Service Level Management	Referenced	Discussed			
Availability Management	Referenced	Discussed			
Capacity Management		Discussed		Referenced	
Service Continuity Mgmt		Discussed		Referenced	
Financial Management	Referenced				Referenced
Service Desk		Referenced		Discussed	
Incident Management		Referenced		Discussed	
Problem Management				Discussed	Referenced
Change Management			Referenced		Referenced
Release Management			Referenced		Referenced
Configuration Management		Referenced	Referenced		

Table 1 - Mapping: ITIL® v2 to ITIL®v3

The following map identifies how the original eleven processes are broken down according to the five ITIL® v3 disciplines, in conjunction with business goals and objectives.



ITIL® v3 Processes

Based upon this correlation between the original eleven processes and the five core disciplines, an organization that practices ITIL® v3 is able to significantly benefit in many ways, including:

- Executing effective IT and business strategic planning.
- Integrating and aligning IT and business goals.
- Implementing continual improvement.
- Measuring IT organization effectiveness and efficiency.
- Optimizing costs and Total Cost of Ownership (TCO).
- Achieving and demonstrating Return on Investment (ROI).
- Demonstrating the business value of IT.
- Developing business and IT partnerships and relationships.
- Improving project delivery success.
- Outsourcing, in-sourcing and smart sourcing.

- Using IT to gain competitive advantage.
- Delivering the required, business justified IT services (i.e., what is required, when it is required, and at an agreed cost).
- Managing constant business and IT change.

In addition to providing these benefits, the practice of ITIL® v3 provides the necessary framework for IT governance. IT governance assesses value, risk and how to control these aspects; ensures that policies are implemented and required processes are accurately followed; and measures, reports and takes action to resolve any identified issues. IT governance includes leadership, organizational structures and processes. Taken together, these components ensure that IT adheres to and expands strategies and objectives as needed to accomplish organizational goals.

IT governance is part of enterprise governance, which describes corporate (conformance) and business governance (performance).

Service Management as a Practice

Service Management is a framework of best practice end-to-end services to customers. As a practice, Service Management involves understanding the ever- increasing importance of information to an organization. It means that information must be considered a strategic resource and be managed as such. This type of management includes: collection, analysis, production, and distribution of data assets that are critical to a business or organization. The integration of Service Management as a practice will enable IT Services to provide quality services to the business.

ITIL® v3 Framework

The ITIL® v3 Framework requires the business and the technology to be in sync with each other. An organization that decides to implement ITIL® v3 will find that this framework acts as a catalyst to achieve a holistic approach to service management.

Service Management implementation requires an understanding of the business itself and the inter-relationship between all the necessary components that deliver end-to-end optimization. It is also necessary to document all processes relevant to a particular service and its delivery and management. The ITIL® v3 framework provides the means to achieve the foundation for quality IT Service Management.

To provide such quality services, appropriate investment in the support, delivery, and management of the IT systems that IT Services supports must be made. However, it is possible that an organization may overlook or only skim the surface of many of the critical IT functions.

IT services must be aligned to the business needs and be actively supported. It is also increasingly important that IT takes on the role of providing the vehicle for change to facilitate business transformation. This means that applicable IT personnel must be involved in defining and implementing the decisions that allow the organization to run efficiently and effectively in a perceived seamless manner. For instance, the business and IT decide together on a course of action to improve a service. They must be able to rely on each other to provide the necessary input and resources and be able to identify the actions that need to take place to achieve that end.

Organizations depend on the success of IT. There are many benefits to implementing, managing, and supporting IT processes and services. These include a more successful business, less disruption, reduction in costs and increase in revenue, improved public relations, and achieving business objectives.

Service Concept

Service Management is all about service. Service is a concept that can be looked at as delivering value to customers by ensuring the appropriate outcome. The customer wants to achieve certain goals without taking on the ownership of specific costs and risks. It is the end-to-end service that provides what the customer wants and the solutions to resolve problems. Service is a value that allows the customer to feel comfortable with a decision, to follow through on one course over another without any negative repercussions. A good example is the decision to travel by airplane or train rather than by car. The customer sees the end product (safely in a plane seat and safely landing at a destination) rather than how that came about (i.e., maintenance of plane, planning of personnel, fueling plane, etc.) The customer sits and accepts the service without the risks involved. Service Management provides such end-to-end capabilities and offers business solutions.

Service providers that use Service Management are able to:

- Fully understand the services they provide.
- Ensure the services provided the outcomes their customers want to achieve.
- Understand the value of these services to their customers.
- Understand and manage all of the costs and risks associated with those services.

Good Practice and Best Practice

Best Practice is an organization's core offering, but with the addition of complementary advice (support for a market sector or technology) and Web offerings, value-added products, process maps and templates, the organization creates Good Practice. As expected, the resources involved in these areas will be different for each organization. In essence, Fit for purpose and Fit for use become Best Practice, which is what companies want to achieve, as opposed to Good Practice, which is the reality of what these companies are doing. By using the principles of ITIL®, an organization can conform to the Good Practice way of operating.

Having unlimited resources does not necessarily mean that an organization will deliver good services - which is to say, an organization must provide value alongside its services. In order to provide value, an organization should consider how it is currently operating, and then take its approach to the next level by doing the following: making the effort to conduct more research; learning more about its competition; and making use of available technology concerning how to turn Best Practice (what a company is doing now) into Good Practice (what a company wants to accomplish).

Service Management Influences

Service Management is influenced by the following:

- Sources (Standards within an industry, industry practices, academic research, training and education, and internal experience.)
- Enablers (What employers are able to do, what customers want, what suppliers provide, what advisors say, what technologies are used). These enable a business to deliver services in specific ways.
- Scenarios : What the competition is doing, Compliance, Commitments.
- Drivers (What regulators demand, what customers want, what substitutes exist who can provide the same service.)

Together, these influences provide knowledge fit for business objectives, contexts and purpose.

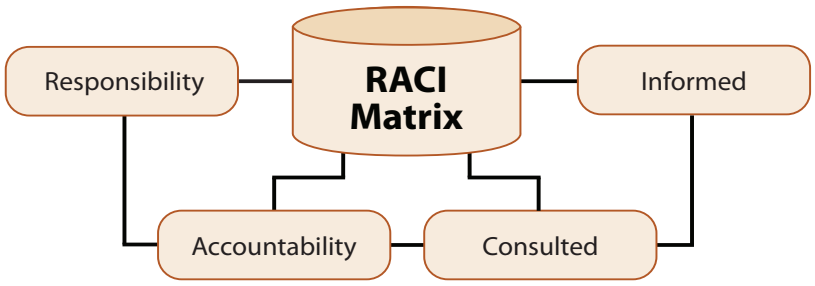
Service Management Influences			
Sources	**Enablers**	**Scenarios**	**Drivers**
Standards	Employees	Competition	Regulators
Industry Practices	Customers	Compliance	Customers
Academic Research	Suppliers	Commitment	Substitutes
Training/Education	Advisors		
Internal Experience	Technologies -- fit for purpose services		

Service Management Factors

Service Management RACI Matrix

ITIL® embraces the RACI Matrix, which stands for Responsibility, Accountability, Consulted, and Informed.

- **Responsibility** - Correct execution of the process.
- **Accountability** - Ownership for the end-to-end process (process owner).
- **Consulted** - Development and the use of the process.
- **Informed** - Process Owner or Service Owner knows how to use the process.



RACI MATRIX

The RACI matrix is an essential way of doing business that greatly increases process efficiency and effectiveness, while decreasing the chances of redundancies across roles and responsibilities. Process owners and service owners are roles. One person may have many roles. One associate could be responsible for the end-to-end delivery of an email service. For example, the help desk technician uses his/her abilities to configure a laptop, using the four components of the RACI Matrix. Process owners are responsible for the end-to-end delivery of process. One service may speak to a number of process owners and vice versa.

Service Management Roles/Responsibilities

- The **Service Owner** is responsible for all processes of a service(s).
- The **Process Owner** is responsible for the management of a service, such as incident management or problem management. These may include processes, inputs that become defined outputs, self-enforcing and self-correcting closed loops, measurable or specific problems, and those issues that may or may not be time sensitive.
- **Functions** are specific types of work and responsibilities with specific outcomes, i.e., service desk or network team – using processes but providing the functions.

Service Management activities

Service Management activities help organizations reach specific desired outcomes by helping them achieve the following:

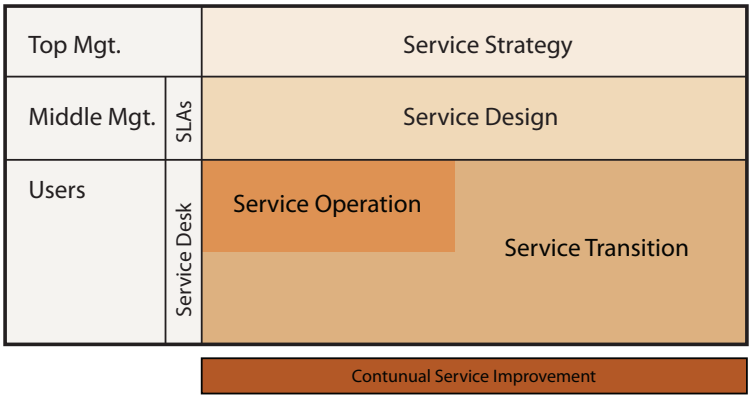
- Present communication planning and its aspects to interested parties.
- Identify what type of impact the solution will have on new or existing contracts or agreements.
- Measure the new or changed service operation expected outcomes. This measurement is usually taken into consideration within the new or existing Service Level Agreements (SLA) and service levels.
- Produce a Service Design Package (SDP) that contains subsequent testing and introduction to the solution and its operation.
- Produce a set of Service Acceptance Criteria (SAC) to be used to ensure that the service provider is ready to deliver and support the new or changed service in the live environment.

Service Management Phases

As stated previously, Service Management includes five phases: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement. Their implementation is not carried out in a linear fashion but in a cohesive manner that provides end-to-end delivery of service. IT Service Management with ITIL® v3 has adopted the service lifecycle. The service lifecycle begins with service strategy and is focused on satisfying customer needs.

- **Service Strategy** include: service direction, rules, and guidelines (think of it as a skeleton). It is the hub of the wheel that aligns with the business strategy.
- **Service Design** is the defining and refining of the service. Service Design forms the outside of the wheel.
- **Service Transition** - The merging of Service Design into Service Transition takes the plan to reality; gives it life.
- **Service Operation** is the maintenance and servicing of the service. This is the business as usual, day-to-day activities. It kicks up ownership of day-to-day service, i.e., putting fuel in car, car maintenance. Service Operations keeps the wheel moving.
- **Continual Service Improvement** continually reviews the service and finds ways to improve its performance; 'making a better mousetrap,' if you will. Continual Service Improvement sits at the outside of the wheel in constant motion throughout all phases. What will make the service better? e.g., Better air conditioning.

Scalability throughout is scaling services to fit your particular organizational needs. This could be on a global level, or just a few people. The concepts are the same; they just need to be customized, as necessary.



Service Lifecycle Map

Service Lifecycle

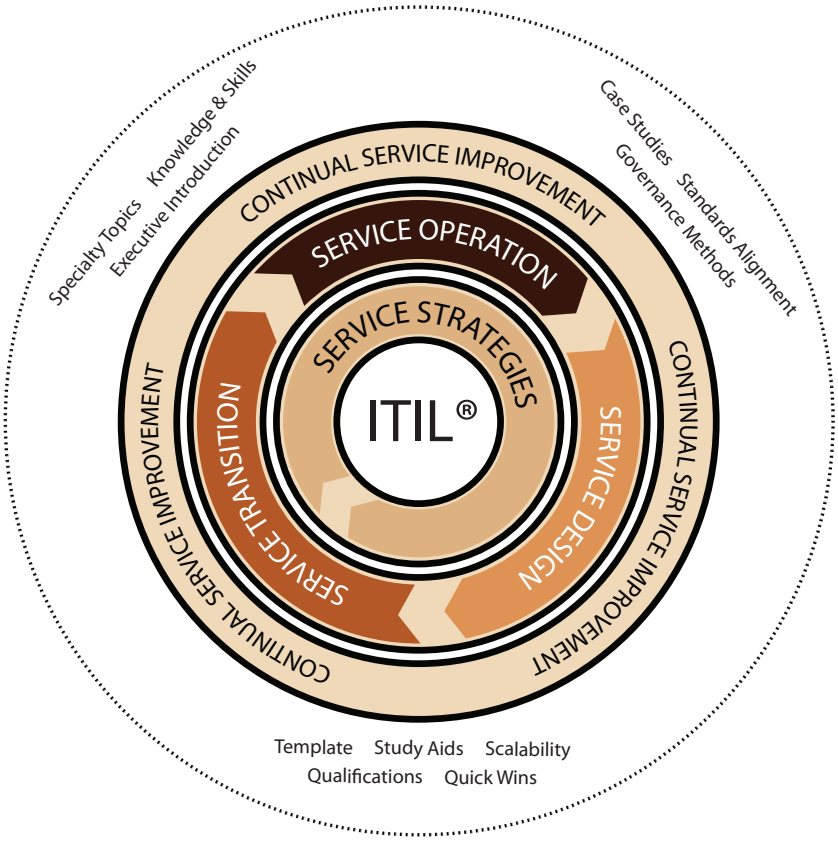
It might be useful to think of the Service Lifecycle as a wheel, as illustrated in the following diagram.

Service management is much more than just delivering services. Each service has its own lifecycle and each lifecycle as part of the whole. Each must work in concert with the other. Service management strives to maintain IT service quality; inputs are the service provider resource and capability assets, while outputs are the services that provide value to the customers.

Examples:

- Guarantee the maximum response time and reports the monthly response status to the IT services users.
- Guarantee the upper limit for service down-time a month and provides continuous monitoring and improvement to ensure this goal is obtained.

Think of service management as a service provider's strategic asset. It will allow the service provider to provide services that deliver value to their customers as a matter of course. Service Management is a way of delivering value to the customer.



Service and the Service Lifecycle

Service Lifecycle Plan

Organizations should decide on an overall plan that covers all service lifecycle stages, including; transition timeframes and phasing, operation, and subsequent improvement of the new service. The plan will include the following:

- Ensuring the management, coordination and integration with other pertinent activities, such as; projects, new or changed activities, services or processes.
- Mitigating any associated risks.
- Identifying service scope, objectives, and components.
- Distributing of the appropriate skills, competencies, roles and responsibilities.
- Deciding what processes will be required and what interdependencies will be involved.
- Interdependencies involved.
- Organizing team management, resources, tools, technology, budgets, and facilities requirements.
- Organizing supplier and contract management.
- Creating progress reports, reviews, and plan revisions.

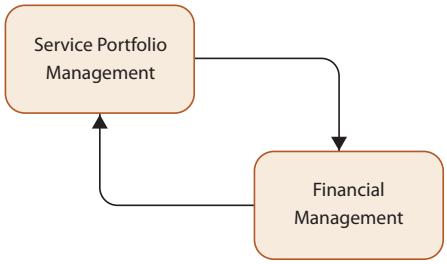
Chapter 2 - Service Strategy

Service Strategy provides guidance in creating plans and defining what is needed for the service. Service strategy involves analysis, planning, positioning, and service model implementation to fulfill business needs and requirements. It also provides guidance on how to design, develop and implement Service Management. It is about ensuring that IT organizations are in position to achieve operational effectiveness and to offer distinctive services to their customers. Its ultimate goal is to make the IT organization think and act in a strategic manner.

Chapter 2 Objectives

After completing this chapter, candidates should be able to identify the following:

- Service Strategy Planning, Functions and Responsibilities
- Service Strategy Principles, Values, Provider Types and Assets
- Service Strategy Resources and Capabilities
- Service Strategy Management Types
- Service Sourcing
- Service Technology Encounter Types



Service Strategy

Strategic Planning

Strategic Planning provides service management guidance to effectively demonstrate value to customers and service providers. In addition, it provides organizational capabilities and Service Management strategic asset guidance on design, development and implentation.

- This type of guidance assists in developing the following service management policies, guidelines, and processes across ITIL® Service Lifecycle:
  - Knowing competition.
  - Determining which services are offered and to whom.
  - Determining how services should be developed.
  - Determining key features that provide customer value.
  - Determining how customers and stakeholders perceive and measure value and performance.
  - Determining the means to drive investment.

Functions

The functions of Strategic Planning are numerous, and include the following:

- Internal and external market development.
- Service Assets.
- Service Catalog.
- Strategic implementation throughout Service Lifecycle.
- Setting objectives and performance expectations in serving customers and market segments.
- Identify, select, and prioritize opportunities.
- Know service portfolio costs and risks analysis. Understand customer needs; when and why they occur. The customer isn't just buying a product, they are buying solutions. Create the service strategy with the customer in mind and integrate it into the overall business strategy.

The following table describes Service Strategy Principles, Service Value, and Service Provider Types.

Service Strategy Principles, Values, Provider Types & Assets	
Principles	
Perspective	Vision, strategy and direction
Position	Service competitive basis and providing a valued service
Plan	How to execute strategy and achieve the vision
Practice	Working practices and decision-making pattern
Value	
Service Utility	Positive customer outcomes or customer constraints removed. Does it meet your need and when you need it to?
Service Warranty	Fit for purpose in terms of the service, availability, capacity, continuity and security.
Provider Types	
Type I	Serves one specific business unit.
Type II	Serves multiple business units.
Type III	External service provider serving multiple external customers.
Assets	• Staff knowledge is an organizational asset. • Translate into better performance, business advantage and advanced business opportunities. • Service management resources include direct inputs into organizational areas such as finance, infrastructure, applications, people, etc.

Service Strategy Principles, Values, Provider Types & Assets

Service Strategy Resources and Capabilities

Measuring the value and identifying key performance indicators are critical functions in seeing an organization's services as assets. Improvements and innovations can extend the range of capabilities and resources, thus allowing the organization to pursue additional opportunities. In turn, there will be new demands placed on these capabilities and resources.

Service management plays an active role in the course of doing business and helps create viable strategy options. To create an effective and diversified portfolio that reflects organization capabilities in a positive light, understand the interdependencies between strategy and service management processes.

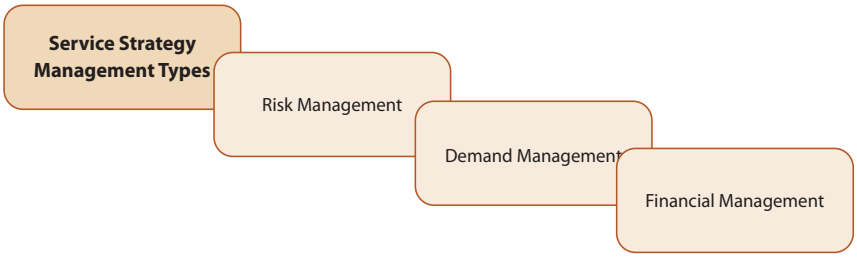
Service strategy resources and capabilities can be broken down into the following:

- **Capabilities**: People, Knowledge, Processes, Organization, Management.
- **Resources**: People, Information, Applications, Infrastructure, Financial Assets.
- **Business Unit**: Combines capabilities and resources in terms of goods and services.
- **Other influences include**: Competitors, suppliers, regulators and prospects.

Value Creation

Service Strategy is all about creating value. All people have their own value preferences. Service strategy provides the right service with the right attributes to meet these preferences.

Service Strategy Management Types



Risk Management

Risk Management and analysis identifies the specific risks involved with a new or changed service, questioning if it is a positive opportunity or more trouble than it's worth. Risk management manages the control of the risk.

Demand Management

Demand management understands and recognizes business patterns by providing the following:

- Flexible work schedules, possible stoppage of specific services at certain times.
- No backups during the middle of the day.
- Reduction of infrastructure requirements (e.g., right capacity, right place, right time, and right costs).

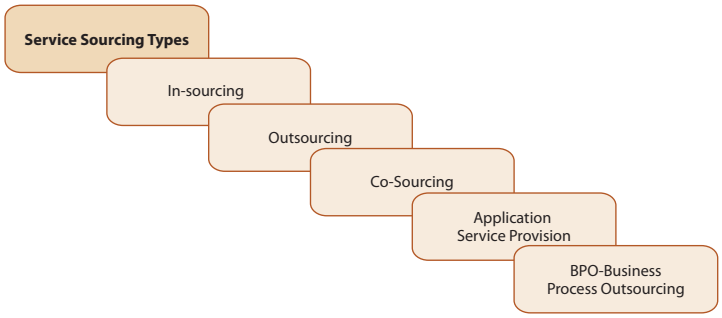
This type of service strategy management hinges on being smarter, using the infrastructure to meet the demands.

Financial Management

Financial management understands financial constraints. Financial management (budgeting, account, and changing requirements) is required throughout all lifecycle phases.

Service Sourcing

Service sourcing resolves around deciding whether to provide a service internally or to outsource it to an external service provider. As expected, Service Sourcing can come from an Internal Provider, a Shared Service Provider or an External Provider.



Service Sourcing Types

Service Sourcing can be:

- ***In-sourcing*** – services performed in-house.
- ***Outsourcing*** – services performed outside the company, such as in a consulting capacity.
- ***Co-sourcing*** – working together (i.e., timeframes), Partnership or multi-sourcing.
- ***BPO (Business Process Outsourcing)*** – outsourcing entire business process, e.g., payroll processing, recruitment.
- ***Application Service Provision*** - listen, download and watch at any time (on demand).
- ***KPO (Knowledge Processing Outsourcing)*** - using contractors is the most recent service sourcing component; potentially a less expensive and better option. This is the newest of the service outsourcing options.

Service Technology Encounters Types

A service encounter can be described as a contact between the customer and the service organization. In this encounter the customer is able to have an understanding of the quality of services provided. It is suggested that any contact with the customer be viewed as a service encounter and recorded as a service request, including any incidents.

ITIL® v3 identifies 4 types of service technology encounters:

1. No technology involved by either provider or customer (*technology- free or manual*).
2. Technology assisted only by the provider (*self-service*).
3. Technology *facilitated* with both the customer and provider having access to the same technology – shared information.
4. Technology *mediated* with remote communication between provider and customer, e.g., on-line shopping.

Chapter 3 - ITIL® v3 Service Design

Chapter 3 Objectives

After completing this chapter, candidates should be able to identify the following:

- Service Design Responsibilities
- Service Design Principles
- Service Design Considerations
- Service Design Goals and Aspects
- Service Design Components
- Service Design Descriptions
- Service Design Business Change Process
- Service Design Business Change Management
- IT Service Continuity Management: Lifecycles
- Delivery Strategy
- Service Design Technology Domains
- Service Design Process Activities

Service Design Responsibilities

- Translates strategic plans and objectives into the design creation and execution using service transition and operations.
- Identifies component parts to service transition.
- Combines infrastructure, applications, systems, and processes in such a way that feasible offerings are presented to suppliers and partners.
- Provides guidance in service design, development, and service management processes.
- Provides design principles and methods for converting strategic objectives into service portfolios and service assets.
- Is not limited to new services; but also includes service lifecycle changes and improvements, to maintain or increase value to customers.
- Includes lifecycle of services: continuity of services, standards and regulations conformity, and service level attainment.
- Provides guidance to service management in design capability development.

Service Design Objectives

Service Design includes: the changes and improvements necessary to increase or maintain value to customers over the lifecycle of services, the continuity of services, and the achievement of service levels and conformity to standards and regulations. It guides organizations on how to develop design capabilities for Service Management.

The design of appropriate and innovative IT services includes: architectures, processes, policies and documentation to meet current and future business requirements.

Service Design Principles include: the business change process, balanced design, resources, design constraints, design activities, design aspects, technology architectures, supporting system and tools, subsequent design activities, measurement systems and matrix, and architectures.

Service Design Considerations

Balanced design takes into account the following:

- Functional requirements and performance targets, and balances them to available resources, deliverables and costs associated with new service(s).
- Functionality (service or product and its facilities).
- Quality (required management and operational functionality).
- Staff, technology and financial outlays earmarked for the new service(s).
- Think of balanced design as a triangular balance between resources, schedule and functionality. Changes to any of these components will invariably have an impact on at least one of the other components. It is likely that business drivers and needs will change during design and delivery, due to market pressures. Consider functionality and resources throughout the Service Lifecycle.

Design Constraints

Service design solutions must meet business requirements. This should be added to the overall Service Portfolio in the concept phase.

Benefits

Update the Service Portfolio to reflect the current status throughout its development. Such actions will benefit the following:

- Initial service/system analysis.
- Provide an understanding of Service Level Requirements (SLRs) when the service goes live.
- The Capacity Management team will be able to take those SLRs and model them within the current infrastructure to determine if it will be able to support the new service. If time allows, modeling activity results can be built into the Capacity Plan.
- If new infrastructure or extended support is required for the new service, involve financial management in budget considerations.
- An initial Business Impact Analysis and risk assessment should be conducted on services well before its implementation. This type of readiness assists in streamlining in IT Service Continuity Strategy, Availability Design, and Capacity Planning.

- Notify the Service Desk of new services well in advance of live operation to prepare/train personnel.
- Begin planning Service Transition can start planning implementation and build it into change schedule.
- Involve Supplier Management if procurement for new service is needed.

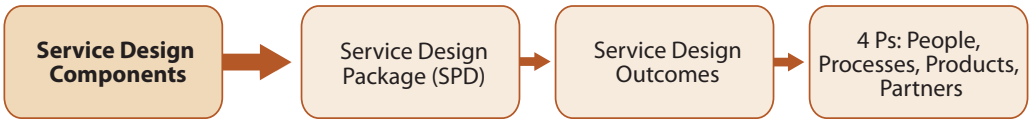
Service Design Goals

- Design services that can be easily and efficiently developed and enhanced.
- Create efficient and effective processes for design, transition, and service improvements.
- Identify and manage design risks; define and remediate risks as much as possible.
- Ensure the service design is secure.
- Establish service performance measurement criteria.
- Produce plans, processes, policies, architectures, frameworks, and other documentation.
- Assist in the development of IT Services' policies, processes, and standards in all areas of design and planning.
- Assist in the development of IT skills and capabilities to translate strategy into tasks.
- Contribute to the overall IT improvement and quality of service within imposed design constraints.

Service Design Aspects

- Functional requirements, resources, and capabilities needed (new or changed services).
- Service management systems and tools – service portfolio for the management and control of services throughout its lifecycle.
- Technology and management architecture – consider the tools, architecture, and people.
- Service Processes and Measurement systems include methods and metrics architectures, components, and processes. This also includes continuing improvements.

Service Design Components



Service Design Components

Service Design Package

The Service Design Package (SDP) is a collection of documents that define IT service aspects and requirements through each lifestyle phase. It is the service design structure that starts in service design and works its way through the entire structure.

Service Design Outcomes

- Improved quality of service.
- Reduced Total Cost of Ownership (TCO).
- Consistent service improvement.
- Easier implementation of new or changed services because it is a controlled service.
- Improved service alignment.
- Improved IT governance.
- More effective service management and IT processes.
- Improves information and decision-making.

4 Ps; People, Processes, Products, Partners

Value of Service Design includes the 4 Ps – People, Processes, Products, and Partners.

Activities of each of the 4 Ps include:

- **People**: Understand the skills people possess (What can people do?).
- **Processes**: Understand customer and business needs (What processes do we need them to do?).
- **Products and Partners**: Technology or partners can aid the process (Products and Partners).

Service Design Considerations	
Design Consideration	**Description**
Design Activities	All service design activities are triggered by changes in business needs or service improvements. To ensure consistency and integration of all design activities throughout the IT service provider organization, adopt a structured and holistic approach to design activities so that all available information is considered.
Design Aspects	Design Aspects include Service Solutions, Processes, Technology, Architectures, Measurement Systems and Metrics. *Service Solutions* begin with a Service Strategy that includes chartering a new or changed service, and including it in the service portfolio. Extract the design aspect requirements from the service strategy, analyze them, and then document the requirements. The requirements then need to be agreed upon. Do the requirements adhere to IT governance requirements? *Processes* - Are the right processes/roles in place to support the new/changed service? Does the organization have the capability to operate, support, and maintain the new or changed service?
Technology Architectures	Is the new or changed service technology architecture compatible and consistent with the technology architecture of the existing services? Does the organization have the capability to operate, support, and maintain the new or changed service?
Supporting Systems and Tools	Is the new or changed service consistent with all other services? Are all other services that interface, support, or depend on the new or changed service consistent with the new or changed service?
Measurement Systems and Metrics	Are existing measurement systems and metrics able to support the new or changing service?
Subsequent Design Activities	Subsequent Design Activities include the design, transition and subsequent implementation and operation of the service solution and its supporting components.
Architectures	Ensure design architectures are flexible and allow IT to quickly respond to new business needs. Integrate the architecture within all strategies and policies. Relate architectures and design to the 'real world'. Are they clear, concise, and relevant? A design or architecture by definition needs to consider all design aspects.

Design Considerations descriptions

Business Change Process

The Business Process change is inter-related to other stops along the IT Service Lifecycle. The Business Process touches on IT Service Requirements, including: Business Requirements and Feasibility, Business Process Development, Business Process Implementation (IT Service), and Business Benefits Realization. These correlations provide significant input into the IT Service Lifecycle. As any changes occur along this continuum, all other components must be analyzed and modified as needed. The IT Service Lifecycle is always changing.

Business Service Management (BSM)

Business Service Management (BSM) monitors and measures information technology (IT) services from strictly a business perspective using management software tools (both structured, process, and enabling software), processes and methods. These tools are designed to help IT organizations to provide better support and maintain the services they provide to businesses. ITIL® has identified BSM as best practice for IT infrastructure management and operations.

This way of doing business allows IT departments to operate by service rather than by an individual enabling IT to prioritize efforts that ultimately improve the service. BSM touches on all the ITIL® lifecycle, bringing together many different processes and tools. These inter-relationships help to quantify efficiency improvements.

BSM provides transparency between customer facing and internal working teams. An integrated team approach allows each team to focus on its part of the process in a holistic approach in the whole of the lifecycle. These services are then formalized into internal Service Level Agreements (SLAs) or Operational Level Agreements (OLAs).

IT Service Continuity Management (ITSCM): Lifecycles

ITIL® Service Continuity concentrates its efforts on preparing for the worst case scenario. It is not just supplying a fix when disaster strikes, but stopping them before they occur, if possible. ITSCM is about investigation of possible problems, development and implementation of recovery options when a service interruption reaches a pre-defined point.

The definition of a disaster and other definitions integral to the organization will be included in the SLA. ITSCM addresses risks such as: infrastructure service failures or some sort of compromise of key information (sabotage, extortion, etc.). ITSCM must be aligned to the Business Continuity Lifecycle.

Service Design Models

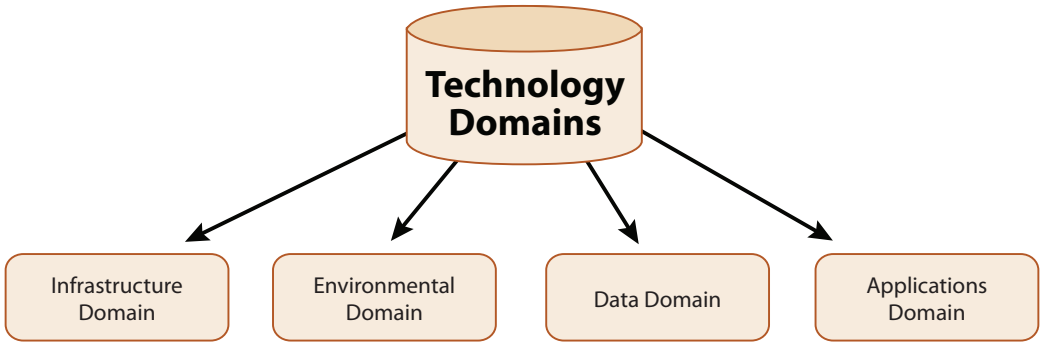
The Service Design Model the organization decides to use will likely depend on what model is used for the delivery of IT services. Review all aspects of the current IT delivery and provisions before adopting a design model for a major new service. This review should include:

- Business drivers and requirements.
- Scope and capability of the existing service provider unit and external suppliers.
- Demands, targets and requirements of the new service.
- Maturity of the organizations currently involved and their processes.
- Culture of the organizations involved.
- IT infrastructure, applications, data, services and others.
- IT governance requirements and ownership and control levels.
- Budgets and resources available.
- Staff levels and skills.

Delivery Strategy

Delivery strategy involves a structured mechanism of continuing review and assessment. This will bring to light organizational capabilities and delivery readiness involved in new or revised services. In addition, information obtained from such an assessment can be used in determining the delivery strategy for a particular IT service or IT system. This delivery strategy approach takes the organization from a known state, based on the readiness assessment, to a desired state, determined by the business drivers and needs. There are many ways to prepare an organization for deploying a new service. An organization should be aware of the options available to ensure the correct strategy is chosen for your organization.

Technology Domains



Technology Domains

Within the specific area of technology there are four separate technology domains that support the components of every service and contribute to its overall performance:

- **Infrastructure** is the management and control of all infrastructure elements. This includes: mainframes, servers, network equipment, database systems, storage area networks (san), network-attached storage (nas), systems software, utilities, backup systems, firewalls, development and test environments, management tools, etc.
- **Environmental Domain** provides management and control of all environmental aspects of all major equipment rooms. This includes: the physical space and layout, power, air conditioning, cabling, and physical security.
- **Data Domain** provides management and control of all data information and data access points, including test data.
- **Applications Domain** includes management and control of all applications software. This includes both bought-in applications and in-house developed applications software.

Design Process Activities

- Gather and analyze requirements. In appropriate instances confer with engineering to ensure agreement. Then, provide clear and concise, agreed upon by concerned parties.
- Design appropriate services, technology, processes, information, and process measurements to meet business requirements.
- Document review and revisions (design plans, architectures, policies).
- Liaison with all other design, planning activities, and roles.
- Produce and maintain IT policies and design documents (designs, plans, architectures and policies).
- Use roadmaps, applicable programs and project plans in design document revisions and form an IT strategy for deployment.
- Design appropriate process risk assessments for the management of processes and deliverables.
- Conjunctively align corporate and IT strategies and policies.
- Provide overall implementation and integrated approach to design activities, including; service solutions, functional requirements, resources, and capabilities.
- Provide service management systems and tools, (i.e., service portfolio) throughout the lifecycle.
- Technology input and management of architectures and tools.
- Design, transition, operate and improve services processes.
- Design of architectures and architectural components to measure service systems, methods, and metrics.
- Verify the new service solution will integrate and interface with current systems.
- Define time frames associated with the chosen approach.
- Consider the organizational impact associated with the new or changed solution.
- Consider the commercial impact (funding, costs, budgets) on the organization.
- Consider technical impact on staff, staff roles, responsibilities, skills, knowledge, training and competence.
- Commercial justification assessment of solution impact on existing business. Assess from an IT point-of-view using Service Management processes.
- Assess and mitigate risk.

Chapter 4 - ITIL® v3 Service Transition

Chapter 4 Objectives

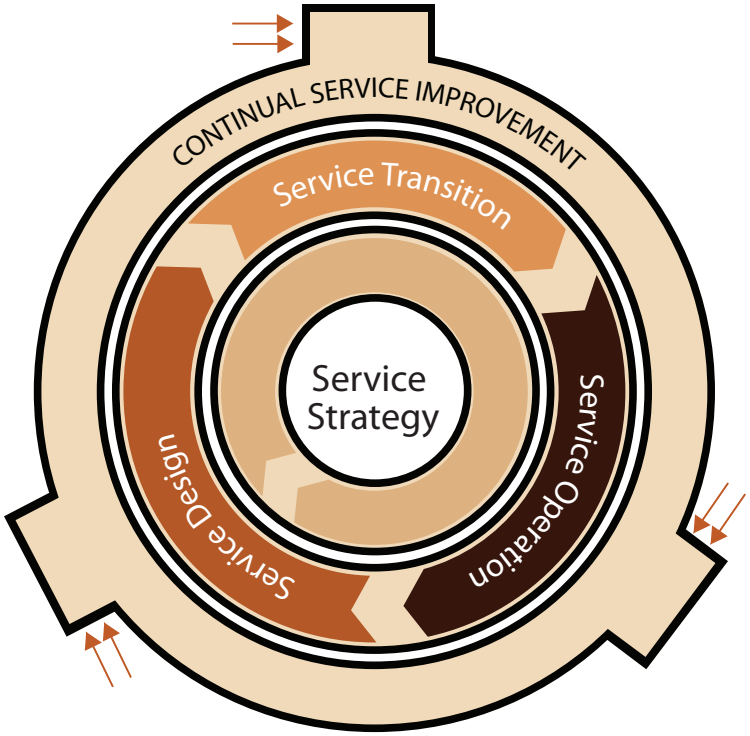
After completing this chapter, candidates should be able to identify the following:

- Service Transition Description
- Service Transition Responsibilities
- Service Transition Goals and Objectives
- ITIL® v3 Service Transition Principles

Service Transition

Service Transition is all about 'transitioning' the new or changed service from development into operations. The Service Transition volume sets out the very real connections between release management, program management and risk management, and places them in a Service Management context. The volume introduces ways to manage the complexities related to changes, services and service management processes, and how to transfer the control of services between customers and service providers.

The following diagram illustrates its place in the ITIL® v3 lifecycle. With Service Strategy at the core; Service Design, Service Operation and Service Transition work together to provide the necessary input to Continual Service Improvement. This improves the services offered by the organization.



Service Transition provides trusted and effective controls and disciplines to ensure seamless transitions throughout the service lifecycle. Service transition controls all aspects of the service change release to minimize unauthorized changes from other operations.

Service Transition provides guidance on:

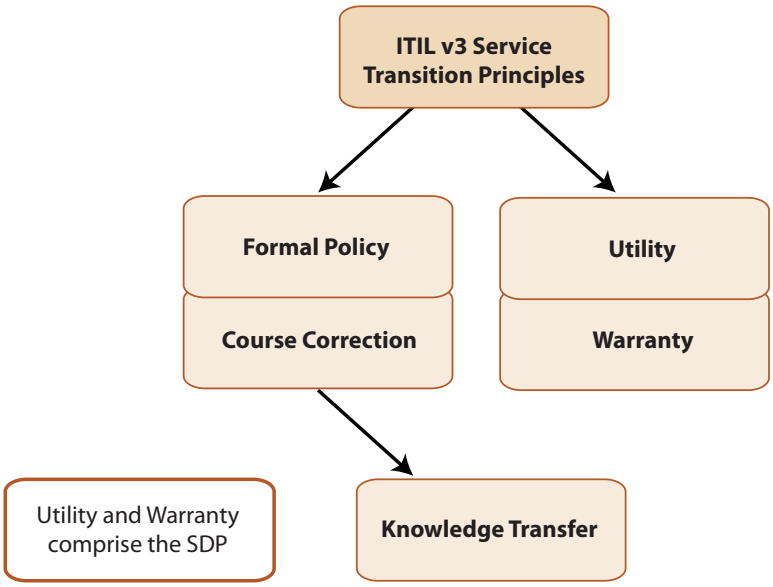
- Service design, implementation, and ensuring the service delivers the intended strategy so that it can be operated and maintained effectively.
- Development and improvement of capabilities for transitioning new and changed services into operations.
- Transition of Service Strategy requirements encoded in Service Design into effectively transitioned into Service Operation, while minimizing risks and disruption. Combines Release, Program and Risk Management processes and sets them in the practical context of Service Management.
- Manage service change, service complexities, and management processes to prevent undesired consequences while permitting innovation.
- Transfer the control of services between customers and service providers.

Service Transition Goals and Objectives

- Align new or changed services with the customer's business requirements and business operations.
- Set customer expectations on how the performance and use of the new or change services will benefit them.
- Enable a business change, project, or customer to integrate a release into their business processes and services.

ITIL® v3 Service Transition Principles

ITIL® v3 Service Transition Principles come in handy when characterizing and checking the value of an IT Service as it progresses throughout its lifecycle.



- **Utility** - The functionality of a product or service to meet a specific need – 'what it does' (Does it meet the need?) If it does meet the need, does it do so when it is supposed to? Utility is what the customer gets.
- **Warranty** - Product or service promise or guarantee that it will do what it says it does. It will be available when required.

Other principles that may apply include:

- **Formal Policy** – Include formal policy and common standards within the framework to implement requests and changes.
- **Course Corrections** – Anticipate corrections and adjustments. Document completely.
- **Knowledge transfer** – Is extremely important to supporting and providing better services.

Utility and Warranty service transition principles are used in the **Service Level Package** (SDP), a new ITIL® v3 concept used in the Service Design phase.

The Service Design Package becomes the IT Service blueprint during Service Transition and Service Operation. The SDP is an integral part of the new or changed service as it is developed, tested, and during the transition into the live environment. This also includes day-by-day maintenance until it becomes obsolete.

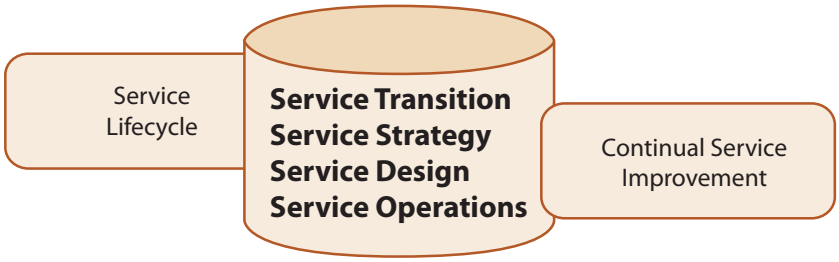
Chapter 5 - ITIL® v3 Service Operations

Chapter 5 Objectives

After completing this chapter, candidates should be able to identify the following:

- Service Operations Goals and Objectives
- Service Operations Responsibilities

ITIL® v3 Service Operations Goals and Objectives



Service Operations Lifecycle

Service Operations coordinates and carries out the activities and processes to deliver and manage services at agreed-upon levels. In addition, it manages the technology that is used to deliver and support services.

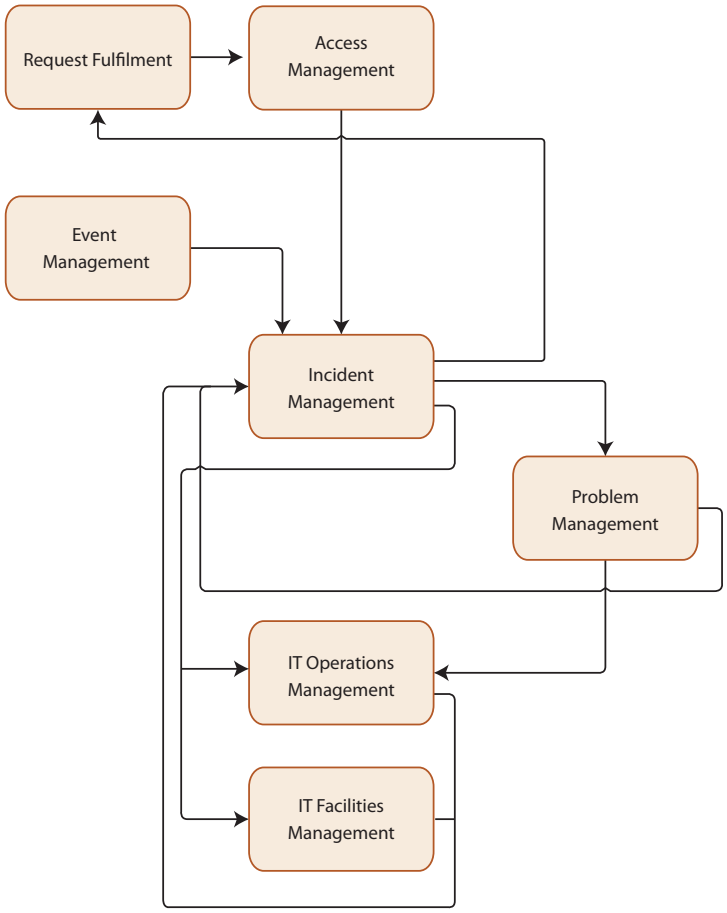
Service Operations manages, controls, and conducts activities to ensure smooth-running of an organization's daily processes. These processes include:

- Day-to-day service management through production.
- Providing service delivery guidance and support.
- Maintaining Service Operations stability while allowing for changes in design, scope, scale, and service levels.
- Determining ways to be proactive rather than reactive in finding solutions to anticipated incidents.
- Supporting operations with new models and architectures such as shared services, utility computing, web services, and mobile commerce.
- Practicing solid Service Operations management practices to fulfill the strategic objectives, which make it a critical capability.
- Providing managers and practitioners with knowledge, which enables them to make better informed decisions in areas such as: managing the availability of services, controlling demand, optimizing capacity utilization, scheduling of operations, and fixing problems.

ITIL® Service Operations documented principles cover:

- Functions, Groups, Teams
- Departments and Divisions
- Providing Service
- Achieving Balance in Service Operation
- Operation Staff involvement in Design/Transition
- Operational Health
- Documentation
- Communication

The following flow map illustrates the correlations between Service Operations and other management functions within an ITIL® v3 organization.



Service Operations Processes

The following processes are part of the ITIL V3 core discipline **Service Operation**:

- **Event Management** filters and categorizes events and decides on appropriate actions.
- **Incident Management** manages the lifecycle of all Incidents.
- **Request Fulfillment** fulfills Service Requests, which in most cases are minor (standard) changes (e.g. requests to change a password) or requests for information.
- **Access Management** (often referred to as Access Management or Identity Management) grants authorized users the right to use a service, while preventing access to non-authorized users.
- **Problem Management** manages the lifecycle of all problems. The primary objectives of Problem Management are to prevent Incidents from happening, and to minimize the impact of incidents that cannot be prevented.
- **IT Operations Management** monitors and controls the IT services and IT infrastructure.
- **IT Facilities Management** manages the physical environment where the IT infrastructure is located, i.e., power and cooling, building access management, and environmental monitoring.

Sample Question:

One of the main objectives of Service Operation is:

a. Designing a new service.
b. Implementing the direction for IT.
c. Maintaining the status quo.

C is the correct answer.

Chapter 6 - Continual Service Improvement

Chapter 6 Objectives

After completing this chapter, candidates should be able to identify the following:

- Continual Service Improvement Process
- Core Disciplines
- Key Responsibilities
- Continual Service Improvement Model
- 7-Step Improvement Process
- Standards
- Effective ISM Practices
- Portfolio Management
- Service Portfolio Elements
- Service Improvement Plan

Continual Service Improvement Process

Continual Service Improvement (CSI) is making the service better through its lifecycle. This is a continuous process with four phases that include the following core disciplines: Service Evaluation, Process Evaluation, Definition of Improvement Initiatives and CSI Monitoring.

CSI Core Disciplines

1. **Service Evaluation** Objective: Evaluate service quality on a regular basis. Identify areas where service levels are not being reached. Conduct regular meetings with appropriate person to verify that previously agreed upon service levels are still viable.
2. **Process Evaluation** Objective: Evaluate processes on a regular basis. When targeted process metrics fall short, perform the following: regular bench markings, audits, maturity assessments, and reviews.
3. **Improvement Initiatives** take into consideration service and process evaluation results. The initiatives that come from these results will be either internal or those requiring input from the customer.
4. **CSI Monitoring** Objective: Are improvement initiatives proceeding according to plan? If not, measures to correct will be taken through the CSI Monitoring process.

Continual Service Improvement Key Responsibilities

- Work with service level management to monitor that requirements are defined and service improvement plans are identified and accepted.
- Ensure correct monitoring tools are in place.
- Capture and measure baseline data, and store in the CMS.
- Define and report on critical success factors and key performance indicators.
- Prioritize improvement opportunities and provide guidance.
- Communicate CSI vision to appropriate parties.
- Identify the models, standards, and frameworks that will help CSI.
- Work with and integrate knowledge management into day-to-day operations.
- Coordinate CSI activities.
- Review data and make service improvement recommendations to senior management.
- Lead, manage, and deliver cross-function and cross-divisional improvements, projects, and activities.
- Build effective relationships with business and IT senior managers.
- Deliver and identify process improvements to critical business areas.
- Set direction for continual improvement.
- Coach and mentor fellow workers.
- Positively influence IT service delivery team levels.
- Ensure each level is considering how to improve the service, make it more efficient, and more cost effective.

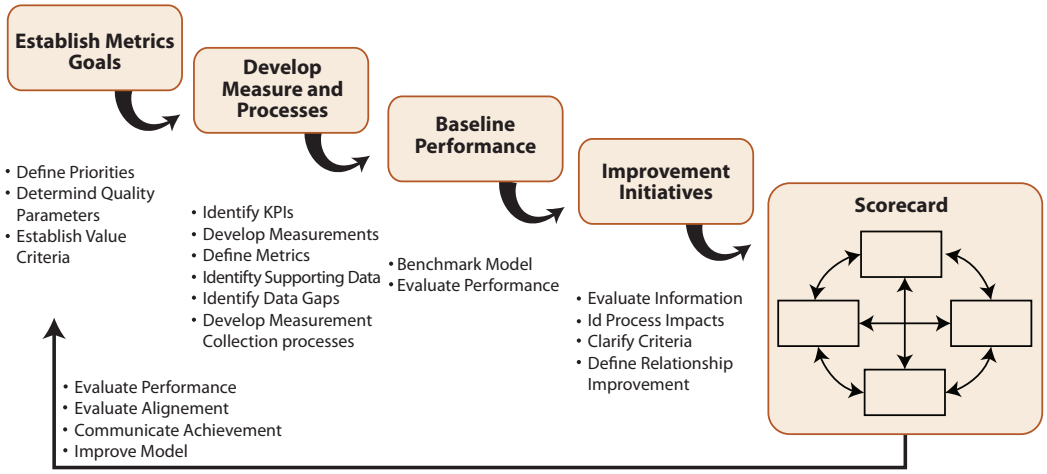
Continual Service Improvement Model

The Continual Service Improvement Model looks at how the organization can continue to provide the best services to its customers. It is a constant redefining of the organization's vision.

Organizational Model components include:

- **Vision** - Business vision, mission, goals, and objectives.
- **Baseline assessments** - Help to determine where the company is now.
- **Measurable** targets - Help to identify where we want to be. Service and process improvements help achieve where we want to take the business.
- **Achievements** - Did we achieve what we wanted?
- **Measurements and metrics** - Help to analyze whether the business has met its objectives.

This model lends itself to the continual service improvements it is meant to accomplish.



Continual Service Improvement Model

7-Step Improvement Process

Identify the goals you wish to achieve through a 7-Step Improvement process. This should include:

- What should be measured?
- Can it be measured?
- Gather appropriate data.
- Process Data.
- Analyze Data.
- Process and use the information gathered from analysis.
- Implement corrective action.
- Identify the goals you wish to achieve.

The 7-Step Improvement Process is a loop that continues to identify and use data in applicable ways to make improvements.

Standards

Global standards sit at the top of Information Technology Service Management (ITSM) and specify the goals to achieve. Such specifications are clarified by codes of practice and other additional parts of the standard, and together they explain how to realize specification targets. Organizations can be certified to show their compliance with the standard.

ITSM Standards

Global IT Service Management standard is ISO/IEC 20000:2005
Presently aligned with ITIL®: **Part 1** (*Specification*) and **Part 2** (*Code of Practice*), both of which are currently being revised.

In development

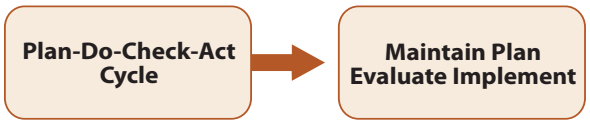
Part 3 - (Guidance on Compliance: Scoping and Applicability), **Part 4** (Process Reference Model), to be followed by **Part 5** (Incremental Conformity Based on ISO/IEC 20000) and ISO15504 **Part 8** (An Exemplar Process Assessment Model for IT Service Management), which will be aligned.

ISM Standards

There is an ever-growing list of ISM global standards in ISM (ISO/IEC 2700 family). Specification; ISO/IEC 27002, (previously ISO/IEC 17799 based on BS 7799).

Achieving Effective ISM practices

- Produce, maintain, distribute and enforce an Information Security Policy, supported by specific policies.
- Know and understand the current business security policy and plans.
- Understand and agree on current and future business security requirements.
- Implement security controls that support the Information Security Policy and manage the risks associated with access to services, information, and systems.
- Document security controls and their operation, maintenance and associated risks.
- Manage suppliers and contracts in respect to access to systems and services, in conjunction with the Supplier Management function.
- Manage all security breaches and incidents.
- Proactively improve security controls and security risk management.
- Ensure security aspects are integrated into all other ITSM processes.



Plan-Do-Check-Act Cycle

An effective ISMS follows the Plan-Do-Check-Act cycle. The *Plan-Do-Check-Act* cycle is centered around *Control* with *Maintain, Plan, Evaluate*, and *Implement* component categories working together as needed.

- **Maintain** – Learn, Improve, Plan, and Implement.
- **Plan** – Service Level Agreements, Underpinning contracts, Operational Level Agreements and Policy Statements.
- **Evaluate** – Internal audits, external audits, self assessments, security incidents.
- **Implement** – Create awareness, classification and registration, personnel security, physical security, networks, applications, computers; management of access rights, and security incident procedures.

Service Portfolio Management

The Service Portfolio is the complete set of services that are managed by the service provider.

Service Portfolio Management allows the IT organization to gain better control of services by addressing the management of the full service lifecycle.

Service Catalog includes all life services currently being offered.

Retired Services are no longer offered.

Service Pipeline services in development; knowing what is in the pipeline allows you to make better decisions.

Goals/Objectives
Service Portfolio Management is responsible for maximizing the customer service experience while minimizing the risks to IT and the business. This is an ongoing effort that involves re-evaluation of services, how to improve services, and how the decisions made will either positively or negatively affect the whole of the enterprise. You should make appropriate changes when conditions change.

Strategy

- Anticipates change while maintaining strategy and planning traceability.
- Represents service provider commitments and investments across all customers and market spaces.
- IT represents present contractual commitments, new service development, and ongoing CSI service improvement plans.
- Includes third party services integral to services offered to customers.

Functions

- Assists managers in prioritizing, allocating and improving investments and resources.
- Governs portfolios by policies and procedures.
- Ensures good investments with value by providing portfolios with financial discipline.
- Service portfolios represent service provider abilities and readiness to serve customers and market spaces.

Service Strategy Common Resources

An organization's service strategy shares common resources. These common resources include the Service Pipeline, Service Catalog, and Retired Services and the categories therein.

Service Pipeline
A Service Pipeline is all the services under development for a given market space or customer. These services are to be phased into the operation by service transition after completion of design, development, and testing. The pipeline represents the service provider growth and strategic outlook for the future. Transition occurs from pipeline into service catalog.

Service Catalog
Service catalog includes the provider's actual and present capabilities, or live services. Most customers want to know what the provider can commit to now, rather than in the future. It is where service demands come together with the capacity to fulfill them. Service catalog is the live services that are visible to the customer. It is the demand for services identified for use in determining capacity management goals and objectives.

Phased Out or Retired Services
Phased-out services are generally not available to new customers or contracts unless a special business case is made. Retired Services could potentially be brought back if needed. These services can be archived and removed from the service portfolio.

Quality of services is a combination of services and capabilities. Resources are production inputs that help to deploy the service and give it value.

Service Portfolio Elements

At the Service Portfolio center we find:

- Analyzed requirements testing.
- Build designed and defined.
- Operational agreement.
- Approved, released, and retired services.

Around the outside of the service portfolio, the Service Knowledge Management System interacts with service portfolio elements. Service Portfolio Management (SPM) is the application of product and portfolio management principles and methods. SPM helps provide balanced decisions.
A service portfolio may consist of:

- Commitments and investments across all customers and market spaces.
- Present contractual commitments, new service development, and ongoing service improvement plans initiated by Continual Service Improvement.
- The ability and readiness of a service provider to serve customers and market spaces.
- Description of a provider's services in terms of business value.
- The complete set of services that are managed by a service provider.

Here are just a few of the Service Portfolio Management benefits:

- Maximizing value while managing risks and costs.
- Managing of investments across the enterprise.
- Guiding the process responsible for managing the Service Portfolio.

Chapter 7 - ITIL® v3 Service Level Management

Chapter 7 Objectives

After completing this chapter, candidates should be able to identify the following:

- Service Level Management Scope and Objectives
- Service Level Management Definitions
- Service Level Agreement Types
- Service Level Management Structure
- Service Improvement Plan
- Service Level Management Process Owner Functions

Service Level Management

Scope

- Provides communication, a contact point between customers and IT.
- Represents IT service provider to business and vice versa.
- Manages business expectations.
- Ensures the service provider delivers quality services to the business.
- Ensures the business keeps its agreements.
- Establishes and maintains SLAs for all current live services.

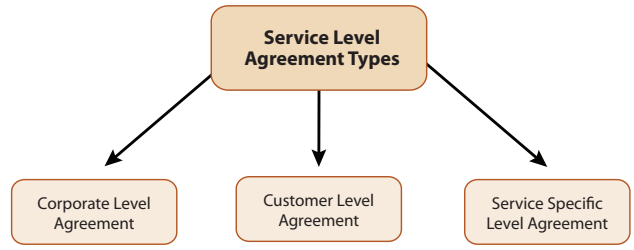
Objectives

- Service Level Management is the key to delivering successful services.
- Ensure agreed upon level of IT service is provided per SLA.
- Define and develop SLAs for all future services.
- Thoroughly review IT services: define, document, agree upon, monitor, and report.
- Building relationships between business and IT provider.
- Ensures specific measures are developed for all IT services.
- Service Level Management is responsible for customer satisfaction surveys and customer service feedback.
- Level of services documentation is clear to both business and IT.
- Proactive in making improvements.

Service Level Management Definitions

- Service Level Agreement (SLA) is an agreement between an IT service provider and a customer. The SLA should be clear, and not ambiguous.
- Operational Level Agreement (OLA) is an agreement between an IT service provider and another part of the same organization. OLA supports the SLA.
- Underpinning Contract (UC) is a contract between an IT service provider and a third party. This must ensure the contract is delivered. The contract is legal though the SLA and OLA are not legally binding. Supplier management maintains and ensures UC requirements are met.
- Service Level Requirement (SLR) is a customer requirement for an aspect of an IT service > draft document > SLR becomes SLA (approved by business). It is a defined business requirement that IT supports. The draft document is agreed upon and becomes the SLA.
- The SLA design starts with the Service Catalog. This lists all live services.
- The service desk should have a copy of SLA to verify timeframes, etc. This type of agreement, is not legally binding, but rather a handshake, a partnership.
- It should develop a good partnership between the IT service provider and customer.

Service Level Agreement Types



Service Level Agreement Types

- **Corporate Level Agreement** – generic Service Level Management (SLM) issues appropriate for every customer – everyone receives same level of service, e.g., email.
- **Customer Level Agreement** – covering all SLM issues relevant to the particular customer group or business unit, regardless of the service –one SLA can cover all services of one particular area.
- **Service Specific Level Agreement** – covering all SLM issues relevant to the specific service in relation to a specific customer group.

Service Level Management Structure

- SLM structure includes creating SLAs in coordination with the Business and IT. Supporting Service Teams, (OLAs), and Supporting Services Suppliers (Contract) provide the context for Supplier Management.
- Monitor, manage and report on content agreement.
- Report on levels of service as agreed upon in the SLA.
- A face to face service review meeting with the service management team and the customer is periodically required.

Content Breakdown

- When the SLA is agreed upon, it should be monitored, managed, and reported on periodically.
- Review meetings should be conducted during which time the SLM team and customers meet face to face.
- These meetings provide an understanding of how the service is being received and delivered.
- This is relationship management.

Service Improvement Plan

Service level management continuously improves the quality of services with the Service Improvement Plan (SIP). SIP is a formal plan to implement improvements to a process or service to meet business needs. It may have a budget and it may be part of the continual service improvement phase of the lifecycle. SLM actively helps and improves service levels. SLM speaks to the customers. SLM ensures the quality of service is provided by the provider and also to ensure the business lives up to its commitments.

Service Level Management Process Owner functions:

- Ensures Service Level Management goals are met.
- Ensures current and future customer SLRs are identified, understood, and documented.
- Negotiates and agrees on customer levels of service.
- Negotiates and agrees on OLAs and UCs.
- Provides valuable information to Service Catalog and Service Portfolio.

Chapter 8 - Supplier Management

Chapter 8 Objectives

After completing this chapter, candidates should be able to identify the following:

- Supplier Management Process
- Supplier Management Responsibilities

Supplier Management

Supplier Management ensures business quality and cost effectiveness. It also works with supplier underpinning contracts and agreements, and manages the supply, services and relationships with suppliers and their performance. In addition, supplier management will negotiate and agree on contracts with suppliers, manage contacts through the lifecycle, maintain supplier policy and supporting SCD (Supplier and Contract Database) - often referred to as a preferred supplier list.

Supplier Management Processes

- Implement and enforce supplier policy.
- Maintain SCD.
- Contract categorization and risk assessment.
- Contract evaluation and selection.
- Contract development/negotiation; review, renewal, and termination.
- Manage suppliers and supplier performance.

Supplier Management responsibilities

- Deliver of Supplier Management.
- Ensure value for money is obtained.
- SLAs, contract review, and assist with and other 3rd party documents.
- Ensure IT supplier processes are consistent with corporate standards.

Chapter 9 - Service Catalog Management

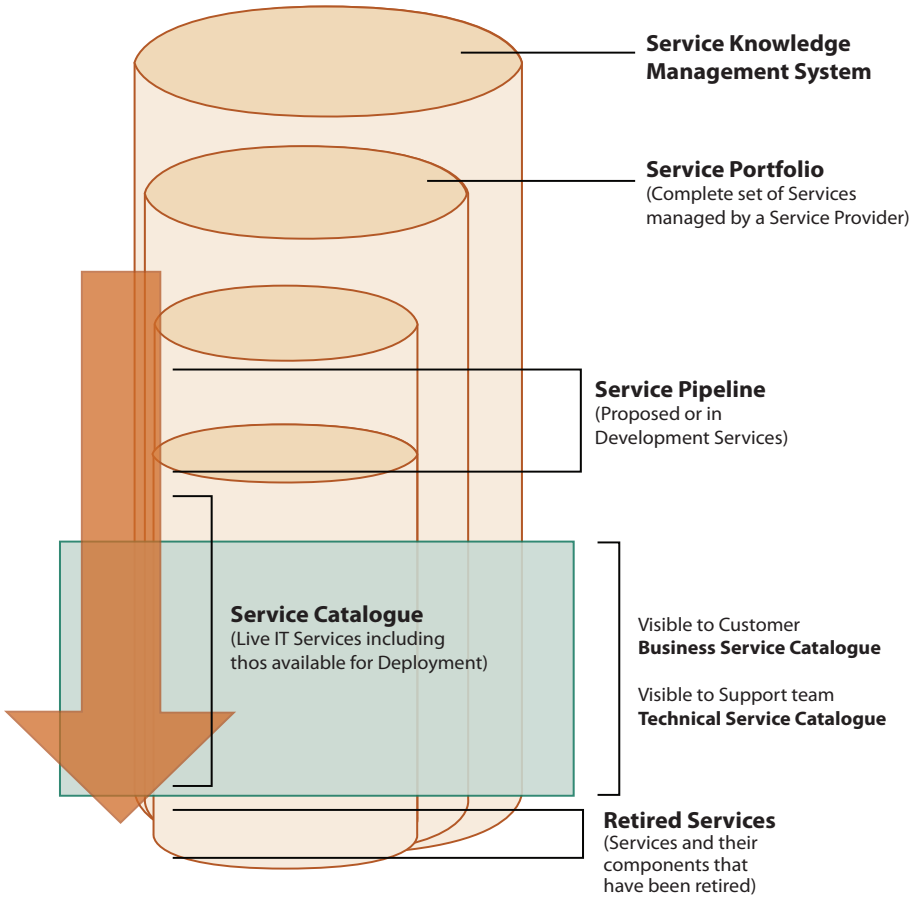
Chapter 9 Objectives

After completing this chapter, candidates should be able to identify the following:

- Service Catalog Management definition
- Service Catalog roles and responsibilities
- Business Perspective

Service Catalog Management

Service Catalog Management provides a single source of consistent, accurate, and credible information about services. It is responsible for keeping all areas up-to-date, accuracy, ensure consistency with service portfolio and to provide security and appropriate backups.



Service Portfolio and Service Catalog

Service Catalog Management Roles and Responsibilities:

- Produce and maintain both views of the service catalog.
- Ensure all the services of the catalog are accurate.
- Ensure accurate information.
- Ensure it is consistent with the service portfolio to utilize strategy to make decisions.
- Ensure service catalog information is protected and backed up.
- The service catalog is not two catalogs. It is two views of the same catalog; the business view and the technical view.

***Example**:*
Online store customer looks at the catalog or the services offered. He/she then chooses what to buy. The purchase is shipped to the customer or picked up.

However, the customer does not see the technical aspects that go on behind the scenes, such as;

- Quantity of products or services available.
- Location products or services come from.
- Cost of the products or services.
- Time involved in the shipping process.

The two views of the service catalog are the business service catalog and the technical service catalog.

Business perspective:

- The email, online, and WAN services are seen.
- The technical behind-the-scenes aspect is not seen.
- The service supplier needs to know what is going on to produce its service. The technical service catalog exists for the service supplier.

Chapter 10 - Availability Management

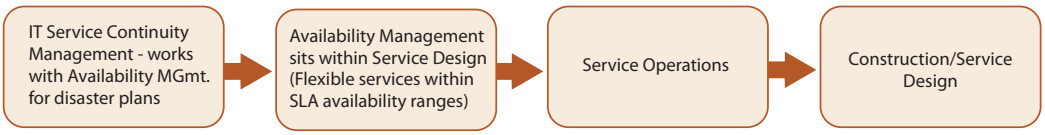
Chapter 10 Objectives

After completing this chapter, candidates should be able to identify the following:

- Availability Management responsibilities
- Availability Management Information System
- IT Service Continuity Management

Availability Management functions

Availability Management sits within service design and focuses on providing flexible services within SLA availability ranges. Availability continues into service operations. It is involved in identifying SLA, and takes the information into construction and service design.



Availability Mgmt. Functions

Availability Management identifies available IT service levels for use in Service Level Reviews with customers. All areas of a service must be measurable and defined within the Service Level Agreement (SLA).

To measure service availability, the following areas are usually included in the SLA:

- **Agreement statistics** - what is included within the agreed service.
- **Availability** – agreed service times, response times, etc.
- **Help Desk Calls** – number of incidents, response times, resolution times.
- **Contingency** – agreed contingency details, e.g. location of documentation, contingency site, 3rd party involvement, etc.
- **Capacity** – performance time of online transactions, report production, numbers of users, etc.
- **Costing Details** – charges for the service, and any penalties should service levels not be met.

Availability is usually calculated based on a model using availability ratio and techniques, and includes the following:

- **Serviceability** – where a service is provided by a 3rd party organization, the expected availability of a component.
- **Reliability** – the time for which a component can be expected to perform under specific conditions without failure.
- **Recoverability** – the time it should take to restore a component back to its operational state after a failure.
- **Maintainability** – the ease with which a component can be maintained (remedial or preventative).
- **Resilience** – the ability to withstand failure.
- **Security** – the ability of components to withstand security breaches.

Availability Management responsibilities:

- Infrastructure advice and guidance to IT areas and the business.
- Ensure correct availability levels are met as defined in the SLA.
- Designing new services to deliver the levels of availability defined in the SLR.
- Reporting on availability - Current level of availability, shortfalls, SPOF (Single Points of Failure).
- Optimizes infrastructure capabilities.
- Delivers a cost effective and sustained level of availability.
- Produces and maintains an availability plan that reflects current and future business needs.
- Helps service operation with the diagnosis and resolution of availability incidents and problems.
- Produces and maintains a current availability plan. Is there sufficient availability within the IT infrastructure? It also predicts future availability needs.
- Decides on whether a change will impact the current level of availability and the projections in the availability plan?
- Takes proactive and appropriate measures as needed to identify and resolve issues.
- Incident investigation and diagnosis.
- Liaison with IT infrastructure teams to ensure service designs are flexible and available.

IT Security is integral to the functions of availability management and provides the primary focus to ensure the IT infrastructure continues to be available.

Availability Management Information System (AMIS)

Information collected by availability management is stored in the *Availability Management Information System* (AMIS). The AMIS forms part of the *Service Knowledge Management System* (SKMS).

IT Service Continuity Management

- Works with availability management to formulate a workable plan during disasters.
- Is more than disaster recovery – supports overall business continuity management by ensuring that required IT technical and service facilities can be resumed within an agreed upon time frame.

IT Service Continuity Manager

- Ensures IT Service Continuity Management aims are met.
- Performs Business Impact Analyses for all existing and new services.
- Implements and maintains the ITSCM process in accordance with the organization's Business Continuity Management Process.

Sample Question

The server is operational 24/7, 365 days a year. What type of availability is this?

a. Continuous operation.
b. High availability.
c. Continuous availability.
d. Fault tolerance.

C is the answer – Continuous availability.

Chapter 11 - Capacity Management

Chapter 11 Objectives

After completing this chapter, candidates should be able to identify the following:

- Capacity Management Objectives
- Capacity Management Information Systems
- Capacity Manager Roles
- Service Continuity Management objectives
- The Benefits of Implementation

Capacity Management

Capacity Management provides the appropriate capacity in the right place, at the right time, and for the right cost. It justifies the costs associated with capacity resources in all areas of IT as agreed upon in the SLA.

Capacity matches current and future business needs to ensure the right capacity is delivered, and provides a focal point for all capacity related issues.

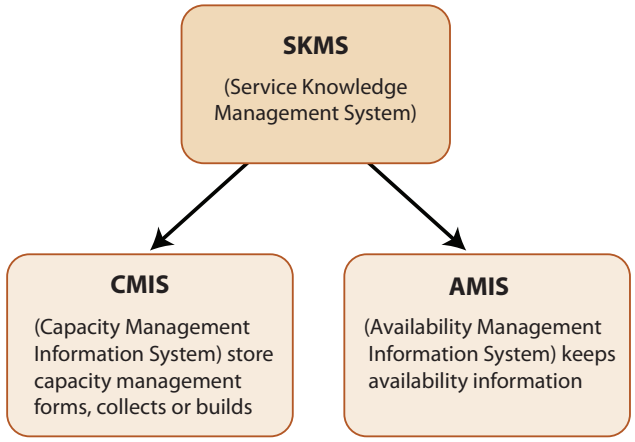
Capacity management is balancing of Supply vs. Demand. In other words, do not spend more than is required, but do not under-supply. Do not spend money that does not need to be spent. Only spend money for needed resources.

Capacity Management Objectives

- Provide a capacity plan.
- Develop business projections based on current capacity and apply to future capacity needs.
- Provide capacity advice and guidance to all areas of a business and IT.
- Service performance in relation to capacity requirements.
- Capacity management works similarly to availability management in service operations.

- Maintain, monitor, and observe the infrastructure.
- Ensure agreed performance targets and capacity levels are met.
- Ensure predicted needs are delivered on course.
- Resolve capacity incident/problem.
- Monitoring change to the infrastructure may affect infrastructure capacity.
- Review and assess all capacity changes.
- Develop proactive measures to improve service performance and capacity.
- Provide a balance.

Capacity Management Information Systems



Capacity Management Information Systems

CMIS (Capacity Management Information System) and AMIS (Availability Management Information System) are the two information systems that comprise the Service Knowledge Management System (SKMS).

Capacity Manager Roles

- Ensure capacity requirements are met.
- Deliver the right capacity in the right place at the right time.
- Forecast future capacity requirements based on business plans, usage trends, and sizing of new services.
- Generate capacity plan, review and revise as needed. Set appropriate levels for resource monitoring and system performances.

Service Continuity Management Objectives

- Keep plan updated and accurate.
- Work alongside Business Continuity Planning (BCP) to ensure business is up and running quickly during downtimes.
- Complete regular Business Impact Analysis (BIA) exercises to ensure all continuity plans are in line with changing business requirements.
- Conduct regular risk analysis and management exercises with the business and Availability Management and Security Management processes.
- Provide recoverability advice and guidance to all other business areas.
- Establish achievable continuity and recovery mechanisms.
- Create IT Service Continuity Plan.
- Service design.
- Use proactive measures to ensure timely recovery.
- Work closely with availability management.
- Establish recovery options for new or changed services.
- Negotiate and agree on necessary contracts with suppliers.

Implementation

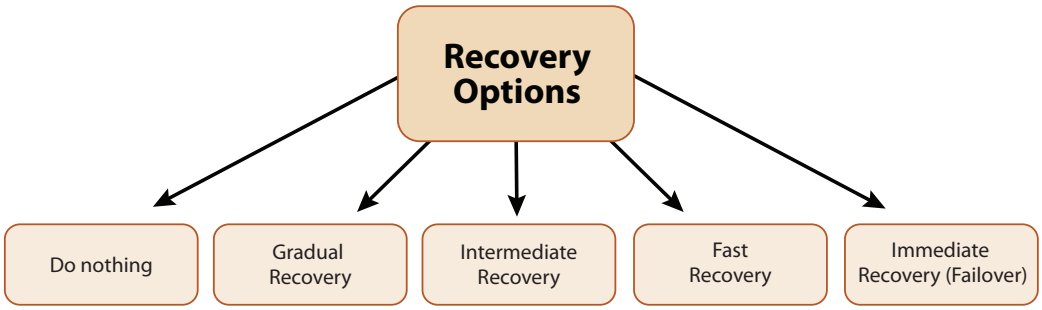
The implementation of Capacity Management enables organizations to achieve the following:

- Develop Service Continuity Plans.
- Develop recovery plans and procedures, including disaster recovery.
- Decide how to test and how often to test IT Service Continuity Plan.

Ongoing Operation Activities include: education, reviews, audits, plan testing, as well as monitoring and responding to management changes.

Recovery Options

Below is a chart illustrating possible recovery options.



Recovery Options

Do nothing
Manual workaround
Reciprocal arrangements

Gradual Recovery
Organizations that can survive 72+ hours

Advantage: cheapest option
Disadvantage: greater downtime

Intermediate Recovery
This is intended for the organization that can survive for more than 24 hours, but not 72 hours. It is offered by external companies as well as an alternative site or mobile office.

Fast Recovery
This is intended for the organization that must be up and running more quickly than 24 hours.

Advantage: back in the marketplace quickly
Disadvantage: more expensive

Immediate Recovery
Need to recover in seconds. If site 1 goes down, site 2 takes over immediately (called Failover), e.g., hospitals.

Advantage: Failover is quick and effective
Disadvantage: Very expensive

Chapter 12 - Configuration Management and Change Management

Chapter 12 Objectives

After completing this chapter, candidates should be able to identify the following:

- Configuration Management Definitation
- Configuration Management Database
- Configuration Management System
- Service Asset and Configuration Goal
- Configuration Management Responsibilities
- Service Change Types
- Change Management 7 Rs
- Change Management Process Modules
- Change Advisory Board (CAB)
- Change Management responsibilities

Configuration Management

Configuration management is all about control of the configuration items that go into the configuration management database. The organization must decide what constitutes a Configuration Identification (CI).

P - Management and Planning.
I - Configuration Identification (also known as CIs, which are assets).
C - Configuration Control, which ensures nothing gets changed unless it goes through change management.
S - Status Accounting and Reporting, which refers to the status of each CI in its own lifecycle. Each CI has different status stages.
V - Verification and Audit, which ensures that CIs are in right place. The audit is the physical identification, it provides one centralized control of all CIs.

Configuration Management Database

- Configuration Management Database (CMDB) consists of Configuration Items (CIs) such as the computer, external drive, printer, people, etc.
- CMDB stores information about configuration items and/or configuration attributes.
- Configuration Items are counted and contained in the CMDB to keep track of Service Assets. For example, the number of computers, 12 and the number of people, 24.
- CMDB offers relationships between CIs.
- Each CI has a unique identifier (identifier, status).

Configuration Management System

The Configuration Management System accomplishes the following tasks:

- Brings the business unit, location, and customers into one configuration to become a Configuration Management System (CMS).
- Pulls all CMDBs together to form CMS.
- CMS components include the Definitive Media Library (DML) which is part of Release and Deployment.
- Looks after secure libraries – check in and out (configuration librarian).

Service Asset and Configuration Goal

Below are goals that Configuration Management can help an organization accomplish:

- Support business and customer goals and objectives.
- Provide accurate configuration information.
- Monitor assets and CIs to minimize quality and compliance issues.
- Optimize service assets and configuration items.
- Combine capabilities and resources to produce good services.

Configuration Management Responsibilities

- Implement service asset and configuration management.
- Set policy and standards.
- Determine the scope of what is included within service assets and configuration management.
- Manage configuration items (manage plan).
- Create and manage configuration management plan (current and future needs).
- Update CIs correctly.
- Work with the IT team to determine CI naming conventions.

Service Change Types

Service changes are authorized, planned, or supported service or service components. The service change also includes associated documentation. A RFC (Request for Change) is a formal proposal for change. The RFC will become the change record and is stored in the CMS.

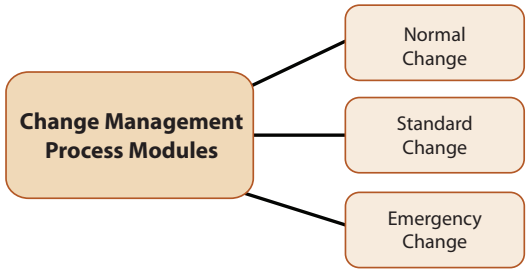
Change management scope includes what is covered and what is not covered – anything within the configuration management system, and oversees the change. The service strategy is defined and refined to determine the Service Design. Service Transition oversees the service construction or changes in the form of Change Management. Some things are considered out-of-scope, depending on how the organization identifies it, e.g., change in printer toner.

Change Management 7 Rs

The following seven questions (7 Rs) related to the change should have answers at any point in the process:

1. Who **Raised** the need for the change?
2. What is the **Reason** for the change?
3. What is the **Return** required from the change?
4. What **Risks** are involved in the change?
5. What **Resources** are required to implement the change?
6. Who is **Responsible** for the build, test, and implementation of the change?
7. What is the **Relationship** between this change and the other processes within the lifecycle?

Change Management Process Modules



Change Management Process Modules

There are three types of change requests; normal change, standard change, and emergency change.

Normal Change Process

A normal change will proceed through all steps of the change management process and will eventually be reviewed by the Change Advisory Board (CAB). Are the 7 Rs being addressed? Using the RACI model, only one person will authorize the change. If approved, move forward. If rejected, send back to originator with an explanation. The originator will then resubmit.

CAB provides advice regarding the change to the person who is deemed responsible to approve or reject normal changes. The process is detailed as follows:

- RFC is created and recorded.
- RFC is reviewed.
- The change is evaluated and assessed.
- Optional change proposal may be created for authorized change.
- Plan is updated and coordinate change for implementation.
- The change report is reviewed and closed.
- An evaluation report is generated.

- Specific work orders are generated.
- During the entire process, updates, changes and information are configured in the CMS.
- Phase itself is built and overseen by Release/Deployment.
- Release and Deployment releases the change, once CM gives the authorization to do so.
- Once the implemented change is reviewed, it is examined to determine if it does what it is supposed to do.

Crucial Elements of Standard Change

Standard change is a pre-approved change that is low risk, relatively common and follows a procedure or work instruction. Most standard changes are received by the service desk from customers and define the trigger to initiate RFC. Standard changes may include the following: well-known, documented and proven tasks; an authorization given in advance; budget approval; and risk acceptance.

Emergency Changes

An emergency change is one that needs to be implemented quickly. Under such circumstance, the following steps are taken:

- The normal change management process is followed.
- Emergency changes may be documented retrospectively.
- The number of emergency changes proposed should be kept to a minimum because they involve greater risks.

An ITIL® emergency change is the highest priority change that can be defined in an organization. Emergency changes need to be evaluated, assessed, and either rejected or approved in a short order. The Emergency Change Advisory Board (ECAB) assesses the change and decides if the change is really an emergency.

Change Models make change management less cumbersome and easier to follow. Preapproved changes are standard changes, and normally come from users.

Change Advisory Board (CAB)

The Change Advisory Board (CAB) exists to support and assist change management to authorize change.

- CAB members can be from anywhere within IT, and also include system users and department managers. They can access each change to determine if it should go forward.
- CAB meetings can be held weekly, bi-weekly, daily, or electronically, depending on the wishes of the organization.
- Emergency Change Advisory Board (ECAB) deal with emergency changes within an organization.
- Within the CAB, one or two people provide on-call assessment, while one board member is identified as the Change Authority.

CAB Outputs

A CAB provides the following documentation:

- **Minutes** – notes recorded at each meeting.
- **Projected Service Outage (PSO)** – a document which identifies SLA relevant for the PSO and its components. It is recommended that notification of such conditions be provided ahead of time, when possible. The PSO identifies the effect of planned changes, maintenance activities and test plans on agreed Service Levels.

The Service Level Manager receives the PSO and decides on a schedule of change. This person makes being proactive a matter of course in determining when changes are convenient in relation to a service. Also, he/she enters data and time on the PSO and input into the RFC, and reviews the RFC to see what changes have been implemented.

Change Manager Responsibilities

- RFC receipt, logging, and prioritization.
- Rejects RFCs as appropriate.
- Decides which RFCs go to the CAB meeting.
- Places issues on agenda and circulates RFCs to CAB members, in advance of meetings.
- Decides who attends meetings based on RFC specifics.
- Convenes urgent CAB or ECAB meetings.
- Considers the advice of the CAB or ECAB when authorizing changes.
- Issues the change schedules.
- Confers with all the necessary parties to coordinate change building, testing and implement.
- Updates the change log.
- Reviews all implemented changes to ensure objectives are met.
- Reviews all outstanding RFCs awaiting consideration or action.
- Ensures schedule is kept.
- Analyzes change records to determine any trends or apparent problems that may occur.
- Continues to manage the change through its lifecycle.

Chapter 13 - Operations Management

Chapter 13 Objectives

After completing this chapter, candidates should be able to identify the following:

- Operations Management Activities
- Operations Management Objectives

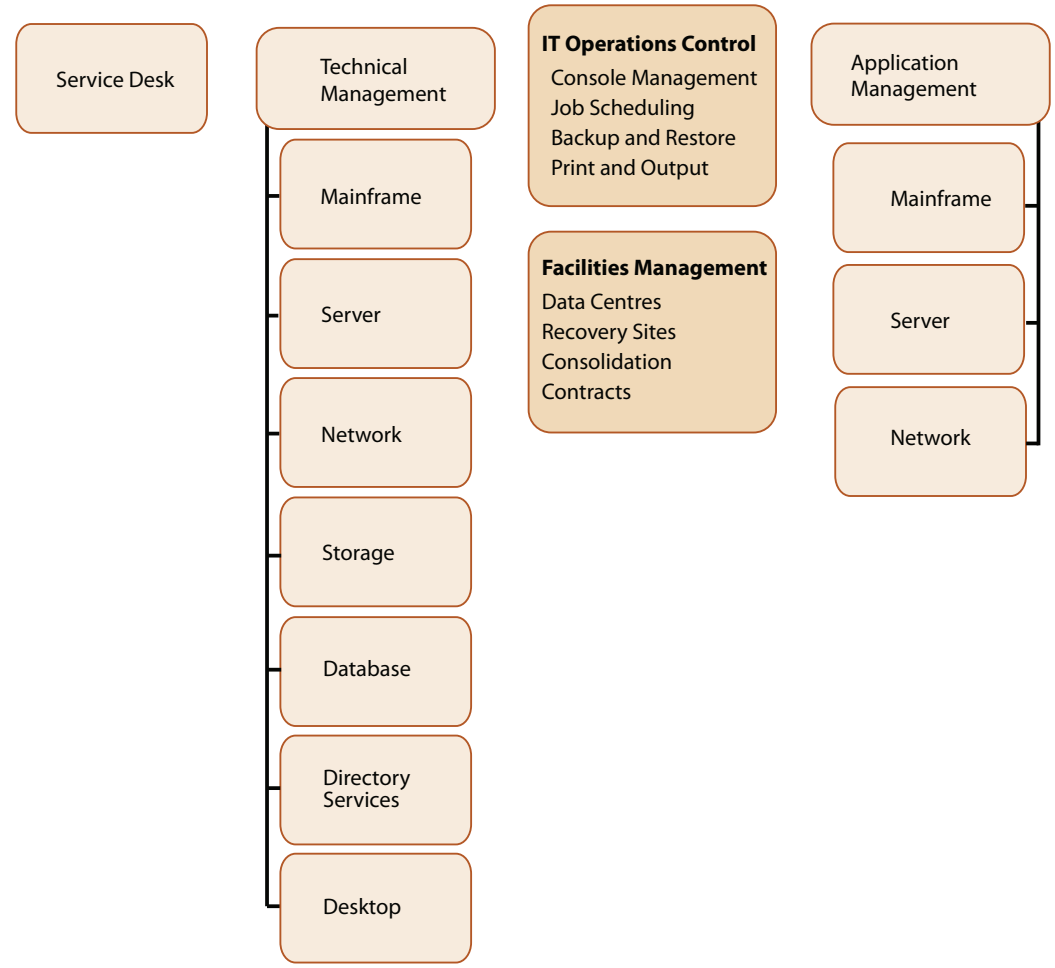
Operations Management Activities

- Achieve day-to-day processes and activities stability.
- Be aware and evaluate improvement initiatives to ensure reliability, efficiency, and reduce operational costs.
- Quick operational skills application to diagnose and resolve any IT operations failures.

Operations Management Objectives

- Operations control oversees operational execution, monitoring activities and events.
- Can be done with the assistance of an Operations Bridge or Network Operations Center.
- Facilities management oversees the physical IT environment.
- In some cases, data center management is outsourced. In these instances facilities management fulfills some of the roles of supplier management, such as; data center, power, lighting, air conditioning, and containment.

Tasks: Console management, job scheduling, backup and restore.



IT Operations Management

Chapter 14 - ITIL® v3 Incident Management

Chapter 14 Objectives

After completing this chapter, candidates should be able to identify the following:

- Incident Management Functions
- Incident Management Process
- Incident Priority
- Service Management Incident Lifecycle
- Incident Management Process Flow
- Incident Models
- Problem Management

Incident Management Functions

An incident is an unplanned interruption to an IT service or reduction in the quality of an IT service. Throughout the lifecycle of an incident, Incident Management is responsible for the ownership, monitoring, tracking, and communication of incidents.

Incident Management Objectives/Responsibilities

- Restore normal service operation quickly.
- Minimize the impact on business operations.
- Ensure the best possible levels of service are being maintained.
- Incident Management Activities.
- Drive the efficiency and effectiveness of the process.
- Produce management information.
- Manage the support staff.
- Monitor the effectiveness of incident management.
- Develop and maintain the systems used within incident management.
- Develop and maintain the process themselves.
- Be responsible and accountable for major incidents.

Incident Management Process

- Investigation and diagnosis.
- Resolution and recovery.
- Incident closure – only the service desk and the user should close the incident together.

Incident steps: Identification, Logging, Categorization, Prioritization (P1, P2, P3), Diagnosis, and Escalation.

Escalation Categories

Escalation is divided into the following two categories:

- ***Functional*** – do not possess the skills to deal with the incident.
- ***Hierarchical*** – passing up the chain of command within the organization.

Incident Priority

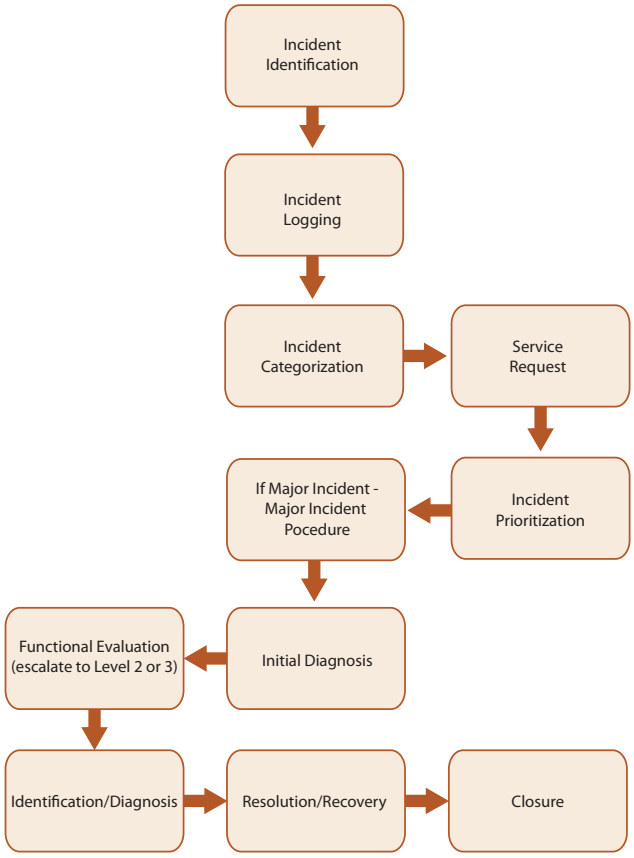
- Impact, Urgency, Priority – determine incident priority.
- Impact on the business.
- Urgency in which a resolution is needed.
- Targets for resolving the incidents are defined within the SLA.
- Often agreed upon by the service level manager and the business.
- Targets may also be defined within the OLA.
- Targets to be agreed upon between service level management and the service operation teams.

Service Management Incident Lifecycle

Service Management incidents occur when there is some sort of service failure. These incidents also have a lifecycle that includes the following:

- First, the incident is *Detected* which leads to downtime to diagnose and repair. Time to *Repair* is categorized as *Mean Time to Repair (MTTR)*.
- Once the service has been repaired, there is another time period called *Mean Time to Restore – MTRS*.
- Time to restore includes a *Recovery* of service after the repair and service *Restoration* (service comes back up).
- Time between systems incidents is referred to as *Mean Time Between Service Incident (MTBSI)* and time between failures is called *Mean Time between Failures (MTBF)*.
- The incident lifecycle becomes a continuum based on factors associated with the incident.

Incident Management Process Flow



Incident Management Process Flow

The incident management process flow steps include:

- Incident Identification.
- Incident Logging.
- Incident Categorization.
- Service Request – to request fulfillment.
- Incident prioritization. If it is a major incident, a major incident procedure is put into place.
- Initial Diagnosis. If a functional evaluation is needed, a functional escalation to level 2 or 3 occurs (Management or Hierarchical Escalation).
- Identification and Diagnosis.
- Resolution and Recovery.
- Incident Closure.

Incident Models

An incident model is a predefined way of dealing with incidents. With the use of a service management toolset, there is a clear course of action to resolution.

Problem Management

Problem Management is responsible for incident diagnosis to determine root causes, and the best resolution to the problem. Problem management strives to minimize incidents and creates a workaround, if possible and warranted. Just as the term suggests, workarounds allow people to workaround a problem. Workarounds are not permanent fixes, but reduce incident impact until a complete resolution can be determined.

Problem Management Areas

When something goes wrong within an organization, the root cause and solutions should be found. This is known as reactive. When problems are anticipated and solved before they occur, this is known as proactive. It is advised for organizations to use past problems that have defined solutions as models for future situations.

Problem Prioritization

Problem Prioritization takes into account the problem severity, its business impact (financial, length of time to resolve the issue, skills necessary to resolve, the extent of the problem, and whether or not the problem should actually be fixed).

Problem Management Activities

All problem management activities should be coordinated with specific emphasis placed on the following:

- Liaison with all problem resolution groups.
- Ownership and protection of the KEDB (Known Error Database).
- Formal closure of all problem records.
- Liaison with suppliers and contractors to ensure that third parties fulfill their contractual obligations.

Known Errors

Known errors can be created throughout the lifecycle. IT providers offer regular updates for their services (e.g., known errors), including fixes and patches. Often, known errors can be identified by developers or third parties. Known errors are housed in the Known Error Database, a database that contains all known areas and is a part of the SKMS. A **Known Error Record** is documentation containing the details of the known error including: status, root cause, workaround, etc. The purpose of this record is to provide a quick reference identifying problems and incidents. This detailed information identifies how the problem or incident was overcome, and allows for quick resolution. Technical, applications, operations, incident, and event management service operations staff have access to the known error data base. They should be well-trained in how to retrieve and use the data. Also, new records should be added as quickly as possible.

Problem Management Process

Many factors are involved in the problem management process. The methodology includes:

- **Problem control -** Identify problems within an IT environment and record information about those problems. Problem control identifies the configuration items at the root of a problem and provides the service desk with information on workarounds.
- **Error control** - Keeps track of known errors and determines the resources needed to resolve the known error. Error control monitors and removes known errors when appropriate.
- **Proactive problem management -** Finds potential IT infrastructure problems and errors before they cause incidents.

Major Incident Process

- Problem manager arranges a meeting with appropriate persons, including the service desk.
- Service desk is the communications gatekeeper.
- Managing incident regulates the problem.
- Identifies reasons for incident and helps determine resolution.
- Each organization determines what constitutes a major incident:
    - Incident > Major Incident > Disaster

Chapter 15 - Release and Deployment

Chapter 15 Objectives

- Release and Deployment Responsibilities
- Definitive Media Library (DML)
- Definitive Baselines
- 7-Step Improvement Process
- Release Deployment
- Release Methods
- Release Tasks
- Knowledge Management Objectives

Release and Deployment Responsibilities

Release and Deployment manages the building, testing and specified Service Design delivery of services. The goal of Release and Deployment Management is to deploy releases into production and establish effective use of the service in order to deliver value to the customer and be able to hand over to service operations when they are prepared to receive it. Other goals include the following:

- Define and agree upon release deployment plans with customers, stakeholders, and/or change management.
- Ensure integrity of a release package.
- Record components accurately in the CMS.
- Ensure all packages can be tracked, installed, tested, verified, and uninstalled if appropriate.
- Ensure knowledge transfers enable customers and users to optimize their use of services.
- Ensure skills and knowledge are appropriate for operations and support staff.
- Provide effective delivery and support.
- Provide clear and comprehensive release and deployment plans.
- Enable customer and business to align their activities with plans.
- Release and implement packages efficiently and on schedule.
- Ensure new or changed services meet specified requirements.
- Ensure minimal interruption in production, service operations and support functions.
- Ensure that customers, users, and service management staff are satisfied with the service transition practices.

Definitive Media Library (DML)

The Definitive Medial Library (DML) is a secure library where definitive, authorized versions of all media CIs are stored and protected. Below are specific functions of the DML:

- Provides storage of master copies of versions that have passed quality assurance checks.
- May consist of one or more libraries, or file storage areas.
- Houses master copies of all organization controlled software and documentation.
- The service asset and configuration management keeps the DML storage information accurate.
- Includes copies of purchased software with the appropriate license documentation.
- Only authorized media should be accepted under strict control of the SACM process.
- DMI is separate from Development, Test, or Live file-store areas.
- Provides the foundation for Release and Deployment Management.

Definitive Spares

Definitive spares are those spares that are definitive, approved and released hardware assisting in Incident Management. Its components are maintained as comparative systems within test and environment. Details of these components are recorded within the CMS. Definitive spares are used to facilitate recovery from incidents, or when needed for additional systems. They should be returned after use or replaced.

Configuration Baselines

Review the current service, product, or infrastructure to establish a configuration baseline to work from for future enhancements, and/or activities. Know where you started from. Plan it, do it, and act accordingly to ensure continued quality.

Snapshots

A snapshot is a view of the current environment. The snapshot is recorded in the CMS and remains as a fixed historical record. Snapshots enable problem management to analyze evidence about a situation pertaining to the time of the incident.

Release Components

Release Components include Release Unit, Release Record and Release Identification.

Release Unit

A release unit consists of components of an IT service that are normally released together; it may vary depending on the types of items or service component such as software or hardware. Think of a Release Unit as a collection of infrastructure items that when packaged together could perform a useful function, i.e., a laptop, operating systems and applications could be packaged together to include an application.

Release Unit Path

A typical release unit path might include the following:

- Acquired service package or release.
- Determined plan to deploy release package.
- Test build environment prepared to deploy service component and assure completion.
- Service component is deployed.
- Verify service package or release has been deployed.
- Put service package or release into operation.

Release Record

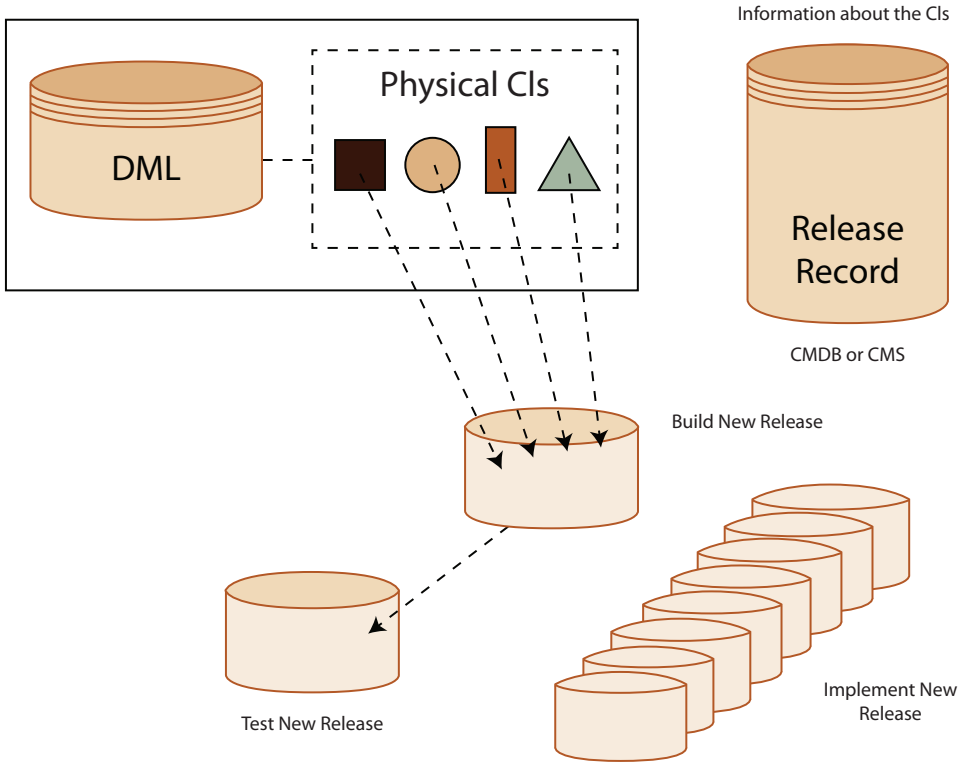
Defines the content of a release and is located in the CMS.

Release Identification

Unique naming convention used to identify a release.

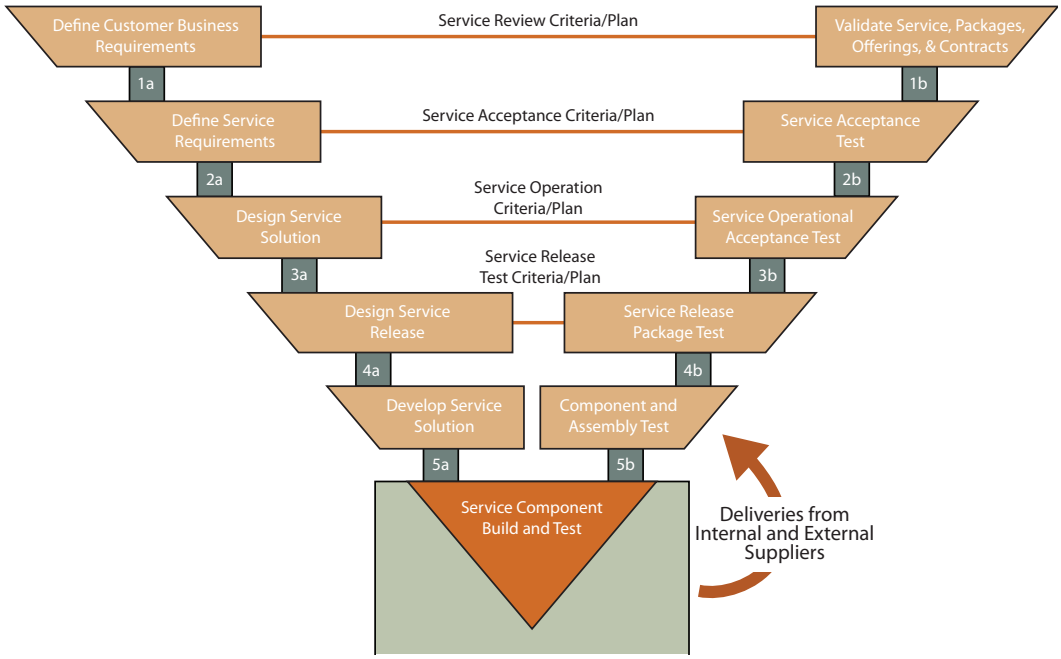
Deployment Process

Information about what is stored in the DML is held within the CMDB or the CMS. Look in CMDB or CMS and extract out this information through the Configuration Librarian. To build a new release, it must be tested first, ideally by an independent tester. Once tested and approved, the new release can be put into the live environment. After release, return updated information to the Definitive Library.



Deployment Process

Service V Model



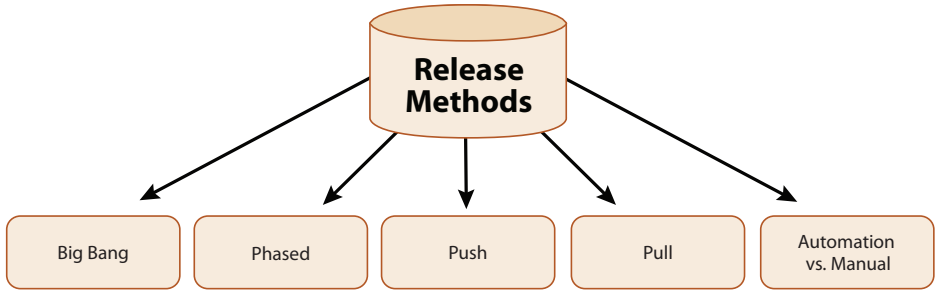
Service V Model

Discovery, Deployment, and Licensing

The organization must provide a means of discovery to ensure compliance. Discovery, deployment, and licensing assist in these endeavors:

- Ability to track software installations.
- Deploys software, firmware, and patches from a central location.
- Controls who has which license.
- Ability to reclaim licenses reduces the overall cost of IT services delivery.

Release Methods



Release Methods

- **Big Bang** – all users receive the service at the same time.
  - **Advantages**: all users start with new service at same time.
  - **Disadvantages**: uses a lot of time and resources.
- **Phased** – One area at a time; two services may be run simultaneously.
- **Push**
  - **Advantage**: Everyone gets the services.
  - **Disadvantages**: Users do not turn their machines off, users take their laptops home, improper shutdowns.
- **Pull** – Service is downloaded when needed.
- **Automation vs. Manual**
  - *Automation* - Simultaneous, Consistency.
  - *Manual* - Quality control.

Release Tasks

- Manage end-to-end release process.
- Coordinate build and test environment and teams.
- Provide management reports on release progress.
- Service release and deployment policy and planning.
- Release package design, build, and configuration.
- Release package acceptance and business sign-off.
- Service roll-out planning (includes deployment method).
- Release package testing to predefined acceptance criteria.
- Facilitate communication, preparation, and training.

Knowledge Management Objectives

- Reduces the need to rediscover knowledge through improved efficiency.
- Ensures that the right person has the right knowledge at the right time to deliver and support the services required by the business.
- Analyzes, stores, shares knowledge and information within an organization.
- Access rights and permissions are restricted to authorized persons. Configuration Management Database and the Configuration Management System comprise the Service Management System.

Scope of Service (SO) Goal and Value

Scope of Service is the day-to-day delivery of services. SO includes; the services themselves, Service Management processes, Technology and People.

- Service value is modeled in service strategy.
- SO coordinates the activities and processes required to deliver the services at the agreed upon levels.
- SO provides ongoing management of the technology used to deliver and support services.
- The cost of the service is designed, predicted, and validated in service design and service transition.
- Optimization measurements are identified in Continual Service improvement.

Chapter 16 - Service Desk

Chapter 16 Objectives

After completing this chapter, candidates should be able to identify the following:

- Service Desk
- Technical Management
- Service Request
- Applications Management
- Assess Management
- Event Management

Service Desk

Service Desk is a functional unit comprised of staff responsible for dealing with a variety of service events. The service desk provides IT users a single point of contact for all incidents and service requests. Its main objective is to restore normal service to the users as quickly as possible.

Service Desk Objectives

- Log all relevant incidents, service requests and allocation codes.
- Provide first-line investigation and diagnosis.
- Resolve the authorized incidents and service requests.
- Escalate to the appropriate team.
- Keep users informed of progress.
- Close all resolved incidents, requests, or other calls.
- Conduct user satisfaction surveys.

Service Desk Types

- Local: Users contact their local service desk based on where they live. That service desk sends an engineer and assists them as needed.
- - Centralized: A service desk in one physical location. Calls may be escalated to local engineers, but the desk itself is in one centralized location.
- - Virtual: Users use one email address or telephone number. Users have no knowledge of where the desk is physically located; thus, technology is depended to route calls.
- - Follow the Sun: Users use one telephone number or email address but the request is routed by technology to the appropriate desk.

Staffing Considerations

What does the business want from the service desk? Some activities include; incident reporting, problem resolution, services requests and change requests. Business needs affects the type and size of staff. Considerations could be time zones, multiple languages, local knowledge, type of responses required, and understanding of targets set to resolve instances and restore service as per the agreement.

Staff Skills

Staff should do the following: communicate clearly; be responsible, use good listening skills, be sympathetic towards problems, respond to these problems in a way the user can understand and resolve them without going up 3 tiers. Also, they should take issues step by step, be friendly and provide the following: product knowledge, take job seriously, interpersonal skills, business, service, and technical awareness. Diagnostic skills, support tool knowledge, awareness of training and tutorials, and comprehension of process and procedures.

Technical Management

IT services user perception is integral to its success. It is therefore important for help desk professionals to gain technical management expertise relating to IT infrastructure management; such as, setting a strategy, designing and refining services, transitioning services, day-to-day network problems, and improving the network.

Technical Management Objectives

- Help plan, implement and maintain technical infrastructure to support processes throughout.
- Provide well-designed, flexible, and cost-effective technical topology.
- Using technical skills to maintain the technical infrastructure in optimum condition.
- Use technical skills to quickly diagnose and resolve any technical failures.

Applications Management Roles

- Fulfills the same roles as technical management from an application perspective.
- Keeps technical knowledge and expertise related to managing applications.
- Ensures that services are designed, tested, and managed from an application perspective.
- Provides resources to support the ITSM lifecycle.
- Amends strategy.
- Designs new services within an application.
- Transitions release packages.
- Application sits one rung higher provide testing, design, building, release, training, etc.

Applications Management Objectives

- Ensure applications are well-designed, flexible, and cost -effective.
- Maintain functionality as opposed to infrastructure.
- Acquire and update technical skills to provide effective service.
- Use technical skills to diagnose and resolve technical issues.

Service Requests (SR)

A service request from a user can be for information or advice, a standard change, or access to an IT service. Service requests are usually handled by the Service Desk, and do not require a Request for Change to be submitted.

An organization's service request process should be understood. It is helpful to create a reference of the most common service requests your organization receives. This will expedite many of the calls.

Sample Question:

Which of the following is not considered a service request?

a. I need to order a new laptop case.
b. I receive an error message when trying to install a new application on my work computer.
c. How do I add a printer to my print setup?

The correct answer is **C**, because it is something that needs to be fixed to continue working.

Service Request Process

A service request is a request from a user for information, advice, a standard change, or access to an IT service. Service requests will require a predefined process flow to fulfill the request. They are usually satisfied by implementing a standard change. Ownership of service requests resides with the service desk who monitors, escalates, dispatches, and often fulfills the user request.

Request Fulfillment

Request fulfillment is a channel for users to make requests and receive approved standard services. This channel satisfies requests made when authorized. This process helps to provide information to users and customers about the availability of services and procedures. Request fulfillment also handles sourcing and delivery of components or consumables.

The service desk and incident management staff initially handles the service requests. When incident management has categorizing the incident, the service requests are defined. Fulfillment of service requests can be done by anyone in service operation, any department, or an external supplier. If the request is to buy something for procurement or it is dealing with facilities, then facilities management or procurement will handle the SR. In most cases, request fulfillment is completed by the existing roles. There is no reason to create a request fulfillment manager's role.

Access Management

Access Management gives users the right to access a service or group of services and applicable IT systems.

Access Management also:

- Executes policies defined in information security management process that enable users to use the services that are documented in the service catalog.
- Records security incidents and problems related to access management.

Concepts

- Access
- Level or extent of a service's functionality or data that a user is authorized to see.

Service rights

- Provide access to service or group of services.
- Read, write, or delete capabilities.

Event Management

Event Management monitors and controls operational functions. It also Detects events, makes sense of them, and determines the appropriate control action. In addition, Event Management provides the basis for automating routine operations management activities.

- **Event Alert** – Configuration item or IT service change-of-state that needs to be addressed.
- **Event Warning** – Significant change or failure that requires immediate attention.
    - Service desk may become involved to escalate to the service operation team.
    - Technical and application management will typically perform event management for the systems under their control. They will also be involved in event incidents and problems.
    - Where IT operations is separated from technical or application management, it is common for first-line response to be delegated to the IT operations management team.
    - Event management is commonly done in the operations bridge, where it exists.
    - Operations bridge can initiate, coordinate, or perform first-level responses.

Event Progression

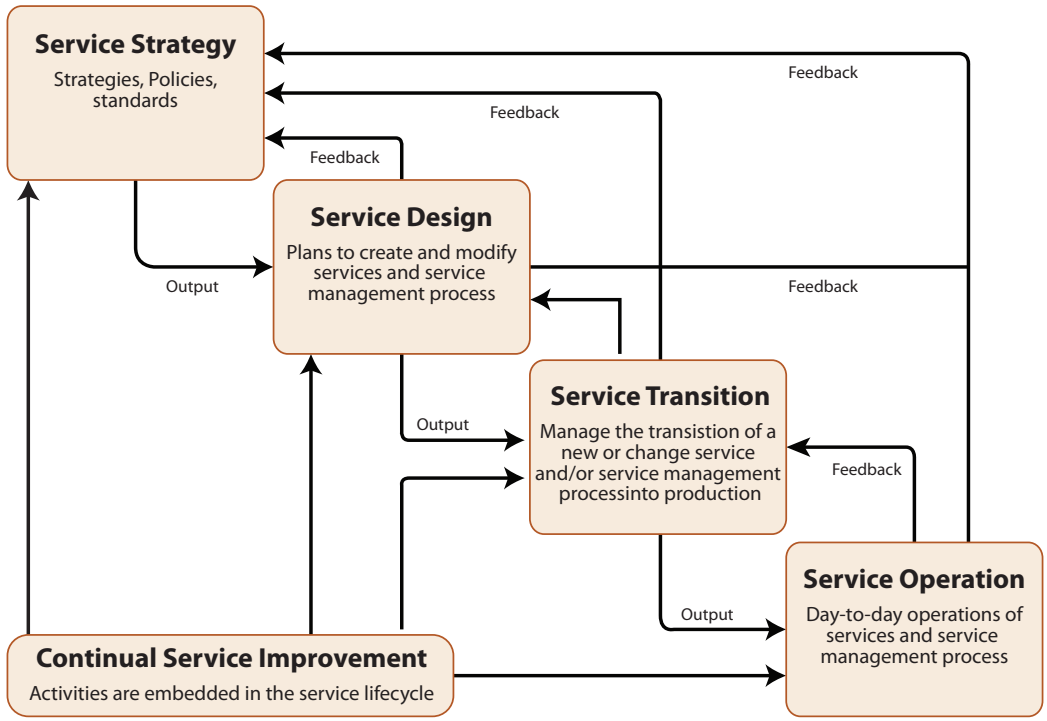
Event Progression with *Events*, to *Alerts*, *Incidents*, and then, *Problem*.

- Not all events may generate alerts.
- Not all alerts may lead to incidents.
- Monitor event to determine where it fits within event progression to decide steps to resolve.

Feedback Loops

- Look at the ITIL® v3 lifecycle like a feedback loop. Service Strategy develops the strategies, policies, and standards as Outputs to Service Design.
- Service Design creates and modifies services and the service management process as Outputs to Service Transition.
- Then, Service Transition manages the transition of a new or changed service and/or service management process as Outputs.
- Service Operation then performs the day-to-day operation services and service management processes.

- CSI is integral to the feedback loop as it identifies improvements throughout all phases. As the phases work in sync feedback to each is provided along each part of the loop to ensure all components are working optimally in time with all the others.
- Feedback loops provide the necessary elements back and forth along the various loops to find the problems and take corrective action as needed. It's like a chain of command, but with outputs and inputs to ensure each cog in the wheel is doing its job.



Feedback Loops

Measuring Services

Measuring services act like a measurement framework that includes: validation, direction, justification and interventions, as needed.

Baselines
Baselines are beginning points that are used for reference and comparison. Establish baselines at each CSI level to achieve strategic goals, objectives, and process and operational efficiencies.

Metrics
CSI metric types include technical, component or applications metrics. Metrics verify service performance, availability, and capacity. A metric is a single measurement point. A metric becomes a KPI (Key Performance Indicator) when there are two points of measurement. An example would be a reduction in the percentage of missed SLA targets. This would indicate that incident management is working.

Key Performance Indicator (KPI)

A Key Performance Indicator (KPI) is a metric that is used to help manage and report on: IT services, Processes, Activities and Roles. Only the most important and relevant metrics are defined as KPIs.

KPI oversight should pay attention to the following:

- **Quality** – How well the process is working.
- **Efficiency** – How efficient is the process.
- **Compliance** – Is the process adhering to compliance requirements?
- **Value** – Does its value indicate what we are doing as opposed to what we are supposed to be doing?

KPI examples:

- **Incident Management** - Are incidents being responded to within agreed targets?
- **Change Management** - Percentage of successfully implemented changes in Service Level, i.e. a reduction in SLA target breaches.
- **Service Desk** – User satisfaction.

The KPIs to select depend on external factors, internal factors, business requirements, business goals, IT requirements, and IT goals.

Critical Success Factors (CSFs) takes a look at the activities of each process and how well that process is working. Is it the quality and value expected, and is it complying with regulations? In a service, each component is measured separately.

Data, Information, Knowledge, Wisdom
Compiling data for the sake of compiling it doesn't hold a lot of water. But, taking that data and putting it into context that can become valuable information based on the end goal then becomes knowledge. This knowledge becomes a shared wisdom for those who did not have it before. Data, Information, Knowledge, and Wisdom comprise the definitive ITIL® model.

Technology and Architecture

- Technology assists in the delivery of all business services.
- A user self-help facility is viewed as a benefit in many organizations.
- Menu-driven tools allow users to submit their own requests, incidents, and change requests.
- A workflow or process engine benefits the delivery of customer processes.
- Allows predefined, automatically managed, and triggered: responsibilities, activities, time scales, escalation paths, and alerts.

Integrated CMS

Benefits of integrating CMS into the organization include:

- Allows the organization to control and to see its assets, components, services, and the relationships between them.
- Holds the information on all the attributes of each CI in a centralized location.
- Contains contracts, licenses, suppliers, locations, incident records, etc.
- Links relationship between incidents, problems, known errors, and change records assists in the effectiveness and efficiency of service management.

Service Desk Tools

Service Desk Tools have changed dramatically and continue to do so at increasingly faster speeds. The service desk technician no longer needs to try to explain something over the phone, but is now able to take remote control of the user's system. This ability allows a virtual training, and shows the user how to do something in real-time, in a lead-and-train approach. Technological advances have enabled the ability to diagnose infrastructure in real time and record findings quickly. Diagnostic scripts are useful in determining why something is happening. Scripts should be context sensitive and their presentation should be automated. The second and third line teams should review the scripts to ensure that the service desk is asking the right questions, updating the scripts, and improving them.

Dashboards provide a quick glance at what is occurring within a service, or application infrastructure in real time. This ability also enables dynamic reporting and support for issue investigation. The dashboard can be customized as applicable.

Reporting and Integration

- Incorporate good reporting capabilities and the use of standard interfaces.
- Integration is a trend within the industry to bring together business-related IT and IT service management. This is also called business service management. Business applications and tools need to interface with ITSM support tools.

Technology Considerations

In the event the organization purchases new tools ITIL® v3 recommends the creation of a SOR (Statement of Requirements). The SOR can be identified by the acronym MoSCoW. This exercise will determine what technology tools the organization decides on and when.

M	*Must have*
o	*N/A*
Should Have	*if at all possible*
Could Have	*if it does not affect anything else*
Won't Have	*Live without it now*

It recognizes the value of V1 and V2 qualifications.

Chapter 17 - ITIL ® v3 Foundation Framework

Chapter 17 Objectives

After completing this chapter, candidates should be able to identify the following:

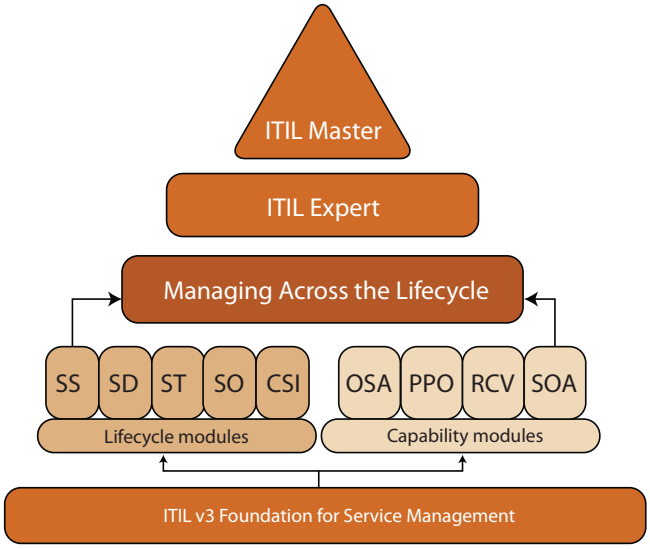
- ITIL® v3 Certification Levels
- Alternate Certification Routes

Qualifications Framework Certification Levels:

- ITIL® v3 Foundation in IT Service Management
- ITIL® v3 Intermediate Level - Service Lifecycle & Service Capability Streams
- ITIL® v3 Expert Certificate

ITIL® v3 Master Qualification

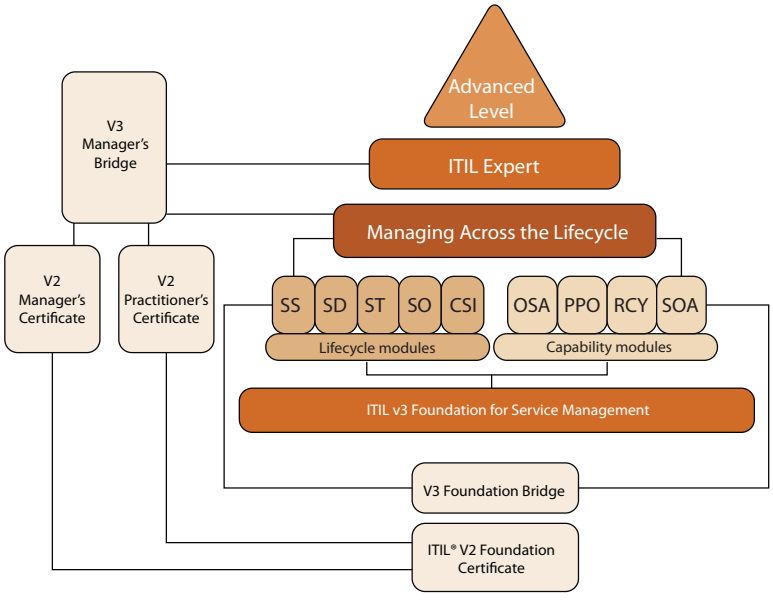
1. Advanced Service Management Professional – Proven application and experience
2. ITIL® Expert (22 credits)
    - Managing through the Lifecycle (5 credits)
3. ITIL® v3 Foundation Certificate in IT Management is the initial certification (17 credits)
    - 2 credits each; Service Lifecycle Stream, Service Strategy, Service Design, Service Transition, Service Operation, Continual Service Improvement.
    - 4 credits each; Service Capability Stream, Planning, Production and Optimization, Service Offerings and Agreements, Release, Control and Validation, Operational Support and Analysis.



Qualification Framework

Alternate Certification Routes

- If you have a version 1 or version 2 certification, you are qualified to take the version 3 Foundation bridge equivalent to version 2 certification.
- If you have a version 2 Manager certification, you are qualified to take the version 3 Manager Bridge to become an ITIL® expert.
- Practitioner's certificate – ask for assistance to determine your alternate certification routes.



Alternate Certification Routes

Acronyms

Acronyms	Definition
AMIS	Availability Management Information System
BSM	Business Services Management
CMDB	Configuration Management Database
CMIS	Capacity Management Information System
CMS	Configuration Management System
CSFs	Critical Success Factors
DML	Definitive Media Library
IT	Information Technology
ITIL®	Information Technical Infrastructure Library
ITSM	Information Technology Services Management
KPIs	Key Performance Indicator
KPO	Knowledge Processing Outsourcing
MTBF	Mean Time Between Failures
MTTR	Mean Time to Repair
OLAs	Operational Level Agreements
PSO	Projected Service Outage
RFC	Request for Change
ROI	Return on Investment
SAC	Service Acceptance Criteria
SANs	Storage Area Networks
SCD	Supplier and Contract Database
SIP	Service Improvement Plan
SKMS	Service Knowledge Management System
SLAs	Service Level Agreements
SO	Scope of Service
SOR	Statement of Requirements
SPOF	Single Points of Failure
TCO	Total Cost of Ownership
UC	Underpinning Contract